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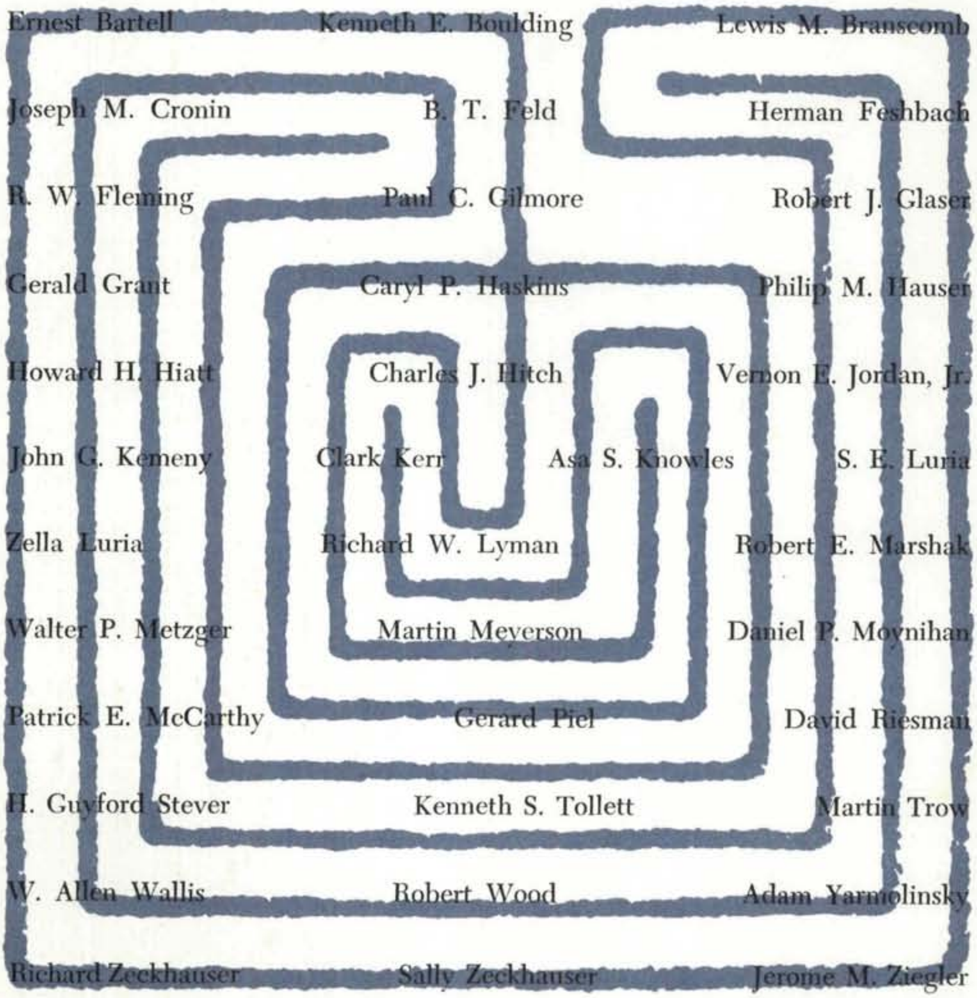
American Higher Education: Toward an Uncertain Future

Volume II



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Volume II

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American Higher Education: Toward an Uncertain Future

Volume II

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Journal of the American Academy of Arts and Sciences

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STEPHEN R. GRAUBARD

Preface to the Issue "American Higher Education: Toward an Uncertain Future." Volume II.

THIS, the second of two volumes on American higher education, has its origins in a process that is fully described in the Preface that appears in the first volume. It would be redundant to repeat what is already expressed there. Readers, however, who wish to know how this volume differs from the preceding one ought to be told that, while the two are closely related and need to be read together, some effort has been made to divide them according to subject matter. Thus, for example, reminiscences about the "events" of the 1960s are more likely to be found in the first volume than in the second. So, also, issues of curriculum (and curricular reform) are more apt to be treated in the earlier issue than in this one, though a number of articles here also touch closely on that subject. It a very large generalization is wanted—which must be acknowledged to have certain exceptions—one may say that the first issue dwells overwhelmingly on matters internal to the university, while the second is more deliberately concerned with the ways in which outside forces have impinged on colleges and universities. This, however, only very roughly describes the division of the materials in these volumes. Because no reasonable analysis of American higher education can hope to divide so neatly between internal and external factors, certain subjects—the changing character of faculties, for example, and the new kinds of pressures that they experience—figure prominently in both volumes.

There is today, for quite obvious reasons, a growing concern with how institutions that have been accustomed to rapid growth are likely to fare in a "steady state" situation. With inflation continuing to reduce very significantly the real income of even the most advantaged institutions, and with both public and private institutions experiencing major economic difficulties, there is a universal concern with how demographic factors (which almost certainly guarantee a diminished pool of late adolescent and early adult applicants) will influence every aspect of academic life that depends on the number of students admitted. The reliance on federal and/or state assistance will almost certainly grow, and it is not at all clear how this will effect the autonomy of institutions that in many instances have come to equate their excellence with a certain independence from governmental control.

Given the state of the economy—and quite independently of the tenor of the first of President Ford's educational pronouncements—there are certain to be powerful voices who will advocate providing special support to those educational programs whose close articulation with the employment requirements of the society can be demonstrated. The disenchantment with a liberal arts education that does not guarantee employment makes only more serious the hazard that there will be a press towards those kinds of vocational training that are said to insure employment. In this volume, as in the first one, careful consideration is given to these matters; they touch, inevitably, on the future well-being of a host of institutions.

It is impossible to consider such questions without reflecting also on the prevailing political climate, and on how a growing concern with social justice translates into legal and bureaucratic requirements that influence and shape higher educational institutions. Egalitarianism is not an abstract principle for those obliged to cope with new federal regulations whose objective is the achieving of a social order different from any that existed before 1960. For better or worse, the higher educational institutions of the country are assumed to have a role of great importance in all of this. New obligations are imposed on them to achieve purposes that would not even have been contemplated a decade ago. It is not at all surprising that the governing structures of colleges and universities are severely taxed by these efforts, and that great numbers who entered the profession (as teachers or administrators) in an earlier period find academic life today bewildering. No one denies the challenge posed by these requirements; it is only that their full implications are now beginning to be recognized.

The economic indicators, so unfavorable to higher education, color everything, whether it be the retaining of obviously competent younger faculty, the development of new or experimental curricula, the maintaining and improving of certain research installations. Inevitably, questions are raised in this volume about how the vitality of certain specific institutions can be guaranteed, particularly as they come under increasing pressure to prove themselves "accountable," to show their need for public (and private) funds. In a period like the present, when the pressures are so intense, there is an advantage in knowing the kinds of proposals that are being made. Whether or not they are agreed with, they pose very significant challenges to a whole set of established academic traditions, creating the necessity for choice between alternatives that were not even thought of at a time of greater affluence.

The whole concept of a system of "post-secondary education," which has such appeal in an increasing number of states, poses its own problems. While it compels every part of the higher educational system to articulate more forcefully and coherently its particular purposes, thereby contributing to new sorts of special pleading, its other major consequence may be seriously to reduce the distinctiveness that exists between higher educational institutions. Bureaucratic definitions of "productivity" and "efficiency" may, according to some who have experience of these, serve principally to create uniformity when the objective of public policy ought in fact to be the protection of diversity. Determining what authority ought to inhere in the institutions themselves and what authority ought to be awarded external groups is inseparable from the larger question of what the public interest in higher education is, and what rights ought legitimately to attach to fiscal control.

It is important, however, that both federal and state interventions in higher educational institutions be seen as something other than the intrusion of hostile external authorities. Indeed, an argument can be made—and is made in this volume—that colleges and universities have not been as badly treated by the federal government as is sometimes alleged. If there has been a failure, it may rest as much with the colleges and universities themselves as with governmental policy. Not knowing how to respond to various possibilities, or what to lobby for, may seem a negligible failure, but it will not appear as that to those who realize how much institutional well-being is tied to governmental support.

This, incidentally, holds even for America's private universities. If these are a rare national resource, as some say, it is also true that many of them are today threatened. To meet that threat, something more than independent action on the part of individual institutions is called for; in the absence of very deliberate public action, the private sector cannot hope to maintain itself at its present strength. Were a number of private colleges and universities to cease to exist as independent institutions, the higher educational universe would be very significantly transformed. There is no one in this collection of essays who believes that such a change would be a change for the better.

While no single volume of *Dædalus* can possibly hope to indicate the range of institutions that enjoy membership in the variegated private-public universe of "post-secondary" institutions, it is important that there be a reminder of how various are the constituents, interests, and concerns of these institutions. While we have only been able to scratch the surface of this problem, and while our hope would have been to spread our net much wider, our method has permitted us to do the following: indicate something of the role of the black colleges of the country; publish a major statement on the role of some experimental colleges; consider the very substantial changes that have occurred in what is almost certainly the largest and most complex urban public university in the country. Together with articles that deal with cooperative education, the education of adults, and the role of private industry in education, we have been able to suggest something about the divergent interests that these (and other) institutions seek to accommodate. The problems of quantity and quality cannot be more graphically expressed than by the evidence posed in certain of these papers. How to compose so many conflicting interests, and how to do so on a national scale which neglects no one of them, is to attempt a kind of rational planning that is still beyond the capacity of any administrative procedures that now exist. How to maintain quality—not least in research—when there are such compelling needs for instructional excellence is another matter that will not remedy itself simply through recalling practices that were once effective. Many new practices and procedures—of the kinds suggested in this volume—are called for.

The problems are serious in every discipline; the fact that they are treated principally with reference to science and medicine in this volume ought not to suggest that they are particularly acute in these areas. Comparable studies in other disciplines and professions would almost certainly reveal analogous situations for which comparable innovation would seem to be called for. Any curricular or administrative reform inevitably calls into question the larger purposes of higher education; it is not at all surprising that this issue of goals, so fully treated in the first volume of this study, becomes again a major concern of the second.

The events of the last decade—indeed, of the last five years—have had momentous consequences for American colleges and universities. It is entirely fitting that these volumes conclude with consideration of a theme that is certain to resonate increasingly in all higher educational planning during the coming years. The terms "quality and quantity" are simply shorthand for a larger preoccupation with how certain kinds of excellence may be planned for in an educational system that increasingly accepts its obligation to serve unprecedented numbers of men and women, young and old, in educational efforts of very great variety. Today, more than in the past, rhetoric in the area of education has only limited value. There is no unity with respect to educational purposes; nor, if the truth be told, is there basic agreement about methods appropriate to resolving higher education's economic problems. Indeed, the challenge of this moment may be to acknowledge the differences that exist—admitting that in this, as in so many other respects, education has become "desacralized"—and that the new condition of open disagreement offers opportunities for inquiry and action that were not deemed necessary when many believed America's colleges and universities to be above reproach, and almost beyond discussion. As American society itself becomes increasingly the subject of critical inquiry, it is only fitting that its central institutions should be looked at in a quite new way.

This issue of *Dædalus,* together with the one that preceded it, ought to be read as the Second Report of the Assembly on University Goals and Governance. Because several of the authors have referred to the First Report, and because that document is now out of print, we have republished the greatest part of it in this volume. It is a fitting conclusion to our study.

Since there can be no redundance in repeating one's indebtedness to others, note should be made of the debt owed to two presidents of the Academy, Talcott Parsons and Harvey Brooks, who have made so many contributions to the work of the Assembly. We are grateful also to the Panel of Academy Advisers, whose names are listed elsewhere in this volume. Our greatest debt is to Martin Meyerson, President of the University of Pennsylvania, who acted as chairman of the Assembly, officially or unofficially, for the whole of its busy five years. We are pleased to acknowledge also the support given the Assembly by the Ford Foundation, the Rockefeller Foundation, and the Edgar Stern Fund. These individuals and institutions—together with many others, not least our authors—have helped to maintain a dialogue which we think as important as any that can take place in this country at this time.

S. R. G.

CLARK KERR

What We Might Learn from the Climacteric

HIGHER EDUCATION in the United States has just passed through one of the great turning points in its history, a climacteric period when unfamiliar forces affected its development and its future was pointed in new directions.

After accepting but complaining in the 1950s about the "apathetic generation," higher education in the United States in the later years of the 1960s was swarmed over by the political activists, as had earlier happened in Latin America and Japan. After more than three centuries as a strong component of what Ruth Benedict once called the special American "magic" of education, higher education has seen confidence in its institutions and its leadership drop almost by one-half over the past six years according to the public opinion polls. After largesse from the horn of plenty had been poured on it after World War II, it recently entered the "new depression." After the labor market had for so long eagerly sought its graduates, it began around 1968 to declare them in oversupply. After a century of steady growth, doubling enrollments every ten or fifteen years, higher education now faces much slower growth and then at least a decade of enrollment decline in the 1980s. And science, the great genie and source of inspiration to our universities for a century, has now come to be seen by many, as by Hannah Arendt, as having reached the "point of negative returns."

Seldom has so great an American institution passed so quickly from its Golden Age to its Age of Survival.

There follow some reflections on higher education as it is passing through its greatest "time of troubles." What has this period of trauma revealed about higher education, about its several constituencies, about its environment? With what weaknesses and what strengths does it face its future? These reflections are in the form of generalizations, and there are, of course, many important exceptions in individual situations. Several of these reflections apply more particularly to research-oriented institutions than to others.

The Widening Gap with the Public

The public at large has clearly lost some confidence in higher education. This process of decay antedates the student unrest of the 1960s, which, however, both exacerbated it and brought it to general attention. The decline of agriculture in national and state affairs cut one most favorable base of support; heavy income and inheritance taxes another. Many institutions moved away from their regional or denominational focus, becoming instead national or even international institutions and losing contact in the process with some historic friends. Science was already, even before the 1960s, becoming suspect by some. I first noticed this new attitude toward science in public contacts at the time that the biological code of inheritance was being unraveled—a frightening prospect to many. The cost of higher education, as another negative factor, rose from 1 to 2.5 percent of the GNP in the 1960s; and other priorities began attracting public attention. Additionally, many citizens resented what they considered misuse of the campuses at their expense as taxpayers; many of them had not themselves had the advantages of a college education and this added to their resistance. Operating resources grew at a slower rate. Public bond issues for higher education failed to pass.

Higher education needs to develop, in fully legitimate ways, better contacts with the public. It cannot prosper in isolation. More concern for the health care of all individuals is one way to encourage favorable reactions; wider availability of off-campus instruction and cultural programs is another.

More attention needs to be paid to reactions as well as to actions. The political activism of the late 1960s, for example, seemed to disregard the possible reactions. The left inflamed the more powerful right to the detriment of higher education. The center did not seem to be sufficiently alert to this possibility, or this inevitability. In particular, freedom of speech on campus must be fully protected, not only from attacks from without but also from within. This is fundamental. It is, and it appears, most hypocritical to defend freedom in principle and then not to protect it in practice against its internal enemies, as has happened on occasion in recent times.

Generally, higher education needs to be less introspectively concerned with itself alone and more alert to its environment.

A House Partially Divided

Higher education lacks unity. This is a virtue, for it is a result of the great diversity of endeavors and it allows for many pluralistic initiatives. But it also has its costs. Higher education is now being folded, for state planning purposes, into "postsecondary education," and the several elements have so little in common that it is a forced and likely unhappy combination.

Within higher education, the interests of the expanding community colleges are not identical with those of the contracting comprehensive colleges. And private and public higher education, which lived in general harmony in times of expansion, are now potentially in greater conflict over tuition policies and state subsidies. When private institutions could hold their absolute numbers of students, they were less concerned with public competition than they are now when retention of these numbers is threatened. An agreement under which the private institutions support low public tuition in return for the public institutions support of state subsidies for the private segment may be possible; but it is not yet clear whether such an agreement, if arrived at within higher education, will gain legislative support. If it does not, then there will be an intensified conflict between the segments.

Higher education is only loosely held together. The coming struggle for survival may demonstrate how loosely.

The Vulnerability of Higher Education

Three centuries of almost constant growth in size—growth faster than that of the nation as a whole—and in importance led to an assumption of an assured place in the future. This feeling of certainty has been shaken, and not only by the apparent fickleness of public support and by the divisions within higher education.

Higher education, now that the percentage of the age group going to college has reached a plateau, is highly dependent for its enrollments on general demographic trends, and these have again proved their inconstant nature.

The possibility of public control has always existed, but the reality has never been exercised as it is today. At the same time that increasing attention was riveted on academic freedom for individuals, autonomy for the institution was being steadily eroded. The academy appears almost defenseless before the Leviathan.

Higher education has no monopoly on the services it supplies. More and more research is being carried on by industry and by government bureaus and by independent agencies like Rand and Brookings. They stand as an alternative. More teaching is taking place on the job, and in nonprofit and proprietary technical schools. The plant and the office and other elements of "postsecondary education" stand as alternatives. More service is provided by consulting firms and by professional associations. They also stand as alternatives. It is, all of a sudden, a more competitive world.

The mass media now place selected, and usually the more odd or extreme, aspects of college activities in every home. The college was once more safely dependent on more rounded knowledge held by fewer people.

The campus is open to the public, and thus open to the intrusions of off-campus activities and of "street people," to crime and to drug traffic.

Higher education has its soft underbelly. Accustomed to the advancement of criticism against others, it discovers itself also open to criticism. Take a case in point: The current national administration has been the subject of intense critical comment by many within higher education, for, among other things, not having done enough for women and minorities. This attack by the academics was from the high ground of principle. But the national administration pressed forward with strong programs of "affirmative action"; and higher education found itself not only on the defensive but situated on the low ground of its own abysmally inadequate record of consideration for women and minorities. The "unprogressive" administration thus demonstrated it was more progressive than the "progressive" academy; and the academy was set against itself internally. The forces of higher education found themselves in some disarray. Or take another case in point: Higher education spoke of its concern for equality of opportunity for all youth and particularly the very poor. But then it turned out that its concern, when it approached the federal Congress, was as much or more for institutional support for itself and subsidies for its existing middle-class students. It seemed to be placing its interests above its principles; and it lost some congressional friends.

Dependent on demography, dependent on the judgment of public authority, dependent upon the comparative performance of its competitors, dependent on the mercies of the mass media, open to the surrounding community, vulnerable to attacks against its own inadequacies, higher education today, as contrasted with a decade ago, is becoming more conscious that it is a subsystem within the total society and that it does not lead a life entirely of its own design.

Even Harvard: "For a long time, many, perhaps even most members of the Harvard community thought that 'it couldn't happen here.' They were wrong" (Committee of Fifteen, *Interim Report on the Causes of the Recent Crisis,* June 9, 1968). Even Harvard is vulnerable.

The Volatility of the Academic Community En Masse

Students usually come and go as individuals, pursuing their careers and their pleasures. Once in a while they coalesce into a "movement," only to have it later disappear almost without trace. This cyclical history was repeated again in the 1960s. This time, however, the cycle was unique in first the height of its peak in May 1970, and second the suddenness of its decline in the summer of 1970. But there seems to have been at work not only a cycle of short-term student political activity but also an underlying long-term trend toward amplification of intensity from one cycle to the next—from the 1930s to the 1960s, for example. When may the next wave come, for there surely will be one; and what special forms will it take, for it will be different; and will it also be further amplified?

Recently, such student activism as there is seems to be taking the form of guerrilla attacks by small groups bereft of mass support, not only in the United States but also in Britain and elsewhere. Hobsbawn has written of the "frenzied ultra-left gestures" indulged in by "a small activist minority." Is this the end of the last wave or the start of the next or something in between? In any event, the sense of permanent immunity from student political activism that marked so much of American higher education after World War II until the middle 1960s should be identified in the future, if it again manifests itself, only as self-delusion.

Faculty members in the late 1960s also became politically active beyond prior experience, usually in support of student-initiated causes. They lined up generally to the left of the electorate at large, but were more widely divided among themselves than any other major grouping of citizens. So cautious and conservative in the actions taken in committee meetings, they often displayed quite opposite characteristics in mass meetings. The chemistry of the situations was almost wildly different.

The academic world seems to be divided into two contrasting parts. First, there is the part of activity—the overwhelming part—that takes place in the classroom, the laboratory, the committee meeting, the study hall. In these environments, the emphasis is upon technical specialization, observance of the facts, careful analysis, individually arrived-at conclusions. And then there is the other part, so visible to the public when it is operative, that takes place in the highly charged atmosphere of mass meetings. There it is generalized issues, myths and rumors, slogans, and group actions that so often hold sway. The two parts seem to be so unrelated to each other—the one highly cognitive, the other highly affective. It can be confusing, and not only to the outside observer, that these two aspects of behavior of the same group of people can be so different not just in degree but even in kind. It appears like a split personality.

The academic mind, so dedicated to the eternal verities, is not immune to the current emotions; is not always superior to the nonacademic mind in its rationality.

The Fragility of Sentiments

Colleges and universities are (or were) systems of sentiments as well as administrative structures. They have often liked to view themselves over the centuries as "communities of scholars" bound together by an element of affection.

Much of this veil of tender fraternal attachment was torn away in recent years, particularly in the elite institutions which also were most likely to pride themselves on their sense of community. Volatility begot fragility. Faculties broke into left, right, and center. The bulk of the trustees moved to the right, the bulk of the faculty to the left—the former seeking to be "sound" and the latter to uphold doctrinal purity. Faculty members and students who were friends on the picket lines discovered they were more likely than not to be antagonists across the tables where changes in academic authority were being discussed. Administrators were rejected, like football coaches whose teams had lost too many games too recently. Alumni were alienated.

Cleavages between interests and along political lines had always existed, but they were largely ignored or even hidden. They were now revealed, and once revealed were hard to forget and to cover over again. The united community of old was, it turned out, made up in fact of strangers and even enemies, as well as of friends. Illusions were destroyed. Cautious suspicion often replaced the prior confidence almost automatically given.

With the bonds of sentiment so frayed, how could institutions show such strength, as I shall suggest later on that they have? The answer is: mutual survival. Faculty and students and administrators all need one another when the situation is looked at coldly. Each role is essential to the others. A more businesslike attachment of necessity came to replace, so very often, the earlier reality (or pretense) of affection.

An element of sentiment also earlier united the academic world and the external public. The campus was surrounded with an aura of dignity and even awe. This was shattered. The campus now looked to many on the outside like just another business, or trade union, or government bureau, and not too well run at that.

With the internal sense of community and the external vision of academic dignity both shaken and even destroyed, what remained? A more businesslike set of internal and external relationships calculated increasingly on the basis of costs and benefits, transaction by transaction. Higher education was located ever less on the Acropolis and ever more in the Agora.

The campus was found to consist of many constituencies, not just one gathered around revered Alma Mater; and the public of many interest groups, some not sure that higher education was worth what it cost economically and politically. Something of value was lost.

The Importance of Choosing the Right Time

With all these swirling events and developments, timing has become much more important than in more placid eras. What is just right at one time may be just wrong at another.

1. It was much easier to build a research university starting in 1957 just before Sputnik and the expanding demand for Ph.D.s than in 1967, when federal R & D appropriations were turning down and the future market for Ph.D.s was becoming less assured. Many made it starting in 1957; few, if any, in 1967.

2. It was far easier for a "comprehensive college" to "emerge" from teachers' college status when teachers were still in great demand than after the bottom fell out of that market.

3. The president with a long established prior record had a better chance of surviving 1968-70 than one who had just recently assumed office. The president who entered office in the fall of 1970 was an instant hero as student unrest on his campus disappeared as soon as he took office—*post hoc ergo propter hoc.*

4. The Miller bill to support the teaching of science came along too late in the

1960s to capitalize on the science wave. The Green bill to give institutional support so that more students could be absorbed came along too shortly before the time in the 1970s when colleges could absorb more students than there were around.

5. Higher education is getting more tenured-in just as student interests are becoming more volatile. Either development would be easier to handle by itself.

6. The Ph.D. candidate in 1960 could not miss; one in 1980 will be lucky to make a hit. Higher education expanded its capacity to train Ph.D.s too greatly in the 1960s and now runs the danger of contracting it too severely in the centers of highest quality. Two maladjustments may well have been accomplished within the course of two decades.

7. A reform that might succeed in one year might fail the next. Generally, the academic and governmental reforms of the late 1960s have left little residue in the early 1970s. The "great reforms," beyond the normal changes that would have taken place anyway, have had a lasting effect on the totality of higher education probably in the range of plus or minus one percent.

The conditions of the present are not so likely to continue into the future as once seemed to be the case. Consequently, both more advance consideration and more flexibility are in order. Risk and uncertainty mark the situation. It is more of a time for gamblers or astrologers or Pareto's "foxes." A homogenized view of time—that any one time is as good as any other—no longer holds.

The Strength of the Individual Institutions

Few colleges, and no universities, have been lost as higher education rounded all the recent sharp turns in circumstances at such high speeds, and these few colleges have represented an almost infinitesimal percentage of total enrollments. Many institutions had financial deficits in 1968–1970; almost none by 1972–1974. The reversal was remarkable, considering what was required. Many institutions that were increasing expenditures per student at a rate of the cost of living plus five percent per year in the 1960s went to plus one percent or even minus one percent in the early 1970s. New dispute-settlement mechanisms were introduced. Faculty and students and administrators united, or at least drew together, against external opposition. As a consequence, institutions generally became more stable internally, not less. Campus after campus made major rearrangements in its curricula and its faculty resources to reflect the new conditions of the job market and the new interests of students.

Great survival capacity and underlying institutional stability have been demonstrated in the face of the greatest series of more or less simultaneous shocks to higher education in American history.

Institutions of higher education and their component parts seem to behave more responsibly and more rationally under external attacks than their record in handling internal conflicts might imply. Under the circumstances of internecine strife, they may seem to be falling rapidly apart, as in the late 1960s; under the conditions of reduced support or even attack from outside, they seem to be solidly structured, as in the early 1970s. This, of course, does not distinguish them from many other types of institutions, but it does help explain the appearances of disintegration in the late sixties and the reality of consolidation in the early seventies.

A High Capacity for Progressive Renewal?

Higher education in the United States has a remarkable historical record of constructive adaptation to changing circumstances. In response to science and industry, the classical college became the modern university. The community college movement was an innovative reaction to the transition from elite to mass-access higher education. The G.I. rush was accommodated most successfully. The answer to Sputnik was a triumphant one. The "tidal wave" of students was accepted without loss of quality.

Now new challenges are being faced—from a strong base of past accomplishments, and of intellectual and administrative resources. In retrospect, from the vantage point of the year 2000, the challenges may once again have been met and it may come to appear that, just as the early 1960s were marked by greater euphoria than subsequent circumstances warranted, the early 1970s were marked by too great a despondency. The moods of higher education seem to swing farther up and farther down than reality fully warrants. And it may turn out to be easier to accept pleasant surprises in the 1970s and beyond, than it was the unpleasant surprises of the latter half of the 1960s.

We are not yet, however, at the year 2000. And higher education must now summon its many strengths to demonstrate once again, as it has so often in the past, that it is capable of self-renewal. It needs to become less backward-looking and defensive in its posture, and more forward-looking and constructive; to do less running in the face of unfriendly forces and to challenge them aggressively instead; to stop groping for solutions and to decide on new thrusts; to spend less time regrouping for the sake of survival and to pay more attention to renewed progress.

R. W. FLEMING

Reflections on Higher Education

MUCH OF THE PUBLIC'S attention to higher education in the last decade has focused on student turbulence. The fact that the more violent and destructive aspects of that era ended in the fall of 1970, and that a whole new undergraduate generation has come and gone since that time, has not dulled the interest.

The student upheaval was a difficult and absorbing period. Those of us who lived through it have long since published our analyses, but in retrospect one wonders how much of what we said was accurate. Many of the reasons which we assigned for turmoil in the United States, e.g., the Vietnam war and racial injustice, did not apply in countries like England, Germany, and France, which also experienced student troubles. Moreover, one of the few comforts a president of a university had during that period was the reading of the history of his own university, which invariably showed similar difficulties in years past. One is tempted to conclude that, though the assigned reasons will vary, there is something cyclical about student unrest which will cause it to crop up periodically. If this is true, it follows that the wheel will turn and that tensions will pass. Student movements have a built-in fragility because their membership changes so rapidly and they have so little collective memory.

In any event, there is at least one observer, whose period in office exactly coincides with the last decade, who would place a series of other problems in a category of far more lasting importance to the world of higher education than the more famous student unrest. Four such problems would be: (1) the interrelationship between manpower needs and educational policy; (2) the application of egalitarian principles; (3) government controls versus university autonomy; and (4) the economics of higher education. The balance of this essay therefore simply expands upon those four problems. It should, however, be preceded by two preliminary observations. The first is that my analysis is based upon the problems of public institutions for the simple reason that I have no experience in the administration of private institutions; and the second is that our educational policies must be articulated within the framework of a democracy. Democracies are often untidy, and in some ways inefficient. They depend a great deal upon compromise, much as purists hate that word. Given our commitment to democracy, it is quite likely that some of our problems will never be resolved, if for no other reason than that we will have a continuing desire to "have our cake and eat it too." Nevertheless, "muddling through" is not an altogether bad way to live, and few of us would exchange it for a more authoritarian regime.

Manpower Needs and Educational Policy

In this age of legitimate concern about sex discrimination, let it be agreed at the outset that "manpower" is a generic term, used simply because "personpower" seems so awkward. The basic question is to what extent our educational system should be geared to providing a supply of skilled manpower to fulfill the needs of society.

It is common knowledge that the early private colleges in America were intended to supply teachers, doctors, lawyers, and ministers; and that the great land-grant movement of the early 1860s, which resulted in the formation of so many state universities, focused on the "mechanical and agricultural arts." Nor is it surprising that in a land populated with immigrant peoples, education should occupy so important a place or be so clearly perceived as a channel to upward social and economic mobility. Enterprising members of the educational establishment could hardly help but observe that taxpayer dollars were most easily extracted when citizens had dangled before them a promise of improved status for their children. Proof positive of the value of the university came in the form of research scientists who performed miracles in terms of crop production, steadily beat back disease and pain, and invented mechanical marvels for the use of industry.

Against all this background we nevertheless find ourselves currently involved in a serious national debate about the value of higher education. It is admittedly expensive, being in all states one of the largest items in the budget of the state. Tax dollars are in increasingly short supply as against a rising tide of demands, and there is resistance on the part of citizens to higher taxes although surveys still show a surprising friendliness to the cause of education. On top of this come manpower forecasts from such respected and experienced agencies as the United States Bureau of Labor Statistics purporting to show that a majority of the jobs of the future will not require a four-year college education. If this is true, degree-holders can be expected to display a certain amount of frustration when they discover that their position in the job market is not enhanced thereby.

Outside the undergraduate arena, there is the field of graduate studies. Bright undergraduates have wished to pursue a graduate degree, most frequently with expectations of remaining in the apparently ever-expanding world of higher education. But now that dream is shattered. Whatever the future of the Ph.D. recipient, it cannot be found to the same degree in the university world of the future. Population statistics are available which demonstrate beyond any shadow of doubt that such opportunities will be very limited by comparison with the past.

Finally, if it be said that there is an enormous amount of pure personal satisfaction in learning, and that this contributes to the quality of one's life, it does not follow that this requires the current range of degree programs. Arguably, one's personal desires can be better met without the somewhat inflexible rules which accompany degree programs.

Having said all of this, one must not suppose that there are no arguments on the other side of the controversy. In the first place, manpower projections are notoriously imperfect. They cannot take into account as yet unknown products, sources of energy which totally change cost calculations, or changing political strategies which alter priorities. Second, "facts," even when true, often collide with expectations to the disadvantage of facts. There is in this country an enormous built-in expectation that college opportunities will remain available, and that they are a route to upward mobility. That image will not easily fade. Third, there are disadvantaged groups, like women and minorities, who have not had equal opportunities in the past and who will bitterly resent a sudden drying-up of educational opportunities at the college level. At the same time, it is predictable that all the "others" will not sit quietly by while educational opportunities are preempted by women and minorities. Last but not least, there will be increased understanding of the fact that higher education never did prepare large numbers of people for the job market in the specific sense; it only broadened the minds of the recipients, changed their perspectives, and provided them with a more disciplined approach for thinking about problems.

How tightly should manpower needs and educational policy be tied together? The argument over this question likely will produce a compromise. In a very real sense the free market will be allowed to operate. Manpower projections, plus rising costs, plus lowered peer pressures to attend college, will doubtless lower undergraduate enrollments but by no means eliminate the demand for very widespread opportunities. At the graduate level the outlook is more uncertain. Almost certainly the traditional Ph.D. production will fall off, but it may be replaced by specialized master's degrees and/or nondegree offerings. Faculties will be influenced by the changing market, but will be less uncomfortable than they thought with the change in emphasis.

The Application of Egalitarian Principles

The drive for equality cuts across many areas of university life. For students there is the matter of admissions, both within a given institution and among institutions. For faculties there is the question of salaries and workloads. For institutions there will be unit cost comparisons. And for prospective employees, whether academic or nonacademic, there will be the problem of equal opportunity, plus the matter of the legitimacy of "better" or "best" qualified as against simply "qualified."

There is an emotional commitment to the concept of equality which appeals to all of us. The trouble is in the implementation of the concept. In the admissions area, for example, the school which needs to increase its enrollment will wish to take any qualified applicant. Other schools will have more applicants than they can accommodate, and will therefore need to choose among the applicants. If this is done on the basis of high-school grades and test scores, as is the usual case, it will be alleged to favor the already advantaged since they will tend to come from the better high schools and from home environments which are more conducive to academic achievement. If it is done on the basis of a lottery, vociferous complaints will be registered that such a system destroys all incentive on the part of precollege students, and that it is nonobjective. The faculty will derive the greater satisfaction from working with those students who show the greatest academic aptitude, and will therefore tend to favor grades and test scores as admissions criteria because they are the best predictors of academic success.

The admissions problem is further complicated by the effort to help minorities move into the mainstream of higher education. To overcome past disadvantages, most institutions of higher education now allow minorities to enter through a special admissions program in which somewhat different criteria are used than for other students. In schools which have selective admissions programs this tends to mean that while all students must meet a threshold level of qualification, minority students will be allowed to enter without having to compete against the grades and test scores of other applicants. Naturally, this gives rise to claims of reverse discrimination. Scores of court cases testing the legality of the system are now pending. The United States Supreme Court successfully ducked the issue in the well-publicized De Funis case, but so many other cases are pending that a decision cannot be avoided much longer. If the court rules that the same admissions standards must be applied to all students, higher education will either have to abandon admissions based on test scores and grades, which operate against the disadvantaged, or face the fact that such a system, though "objective" in some senses of the word, will largely exclude the disadvantaged. Since the latter would be a politically unacceptable solution, the choices would appear to be for the courts to tolerate a "phasing" period, during which the present system will be allowed to operate, or to require a whole new admissions system which applies to everyone. Finding such a system will not be easy, and will probably be highly divisive.

There is a broader question of admissions policy as among institutions. Some schools are more prestigious than others, and their degrees command more respect. If this is so, it is said that the student who is forced by the admissions policies of one institution to go to another is disadvantaged from the outset. Parenthetically, while the idea of trying to make all schools equal may seem impossible in the American context, Germany has only public institutions, all of which it alleges to be equal. In theory a student may go to any of them, though this admittedly creates some problems.

Equality as applied to faculty salaries and workloads is no less complex. Unlike most Western European countries, whose universities are administered by a national Ministry of Education which imposes uniform conditions, American universities have no such central authority. The result has always been competition among them, partly based upon salaries and workloads. The fact that different kinds of institutions have different expectations of their faculties also contributes to the differential in pay and workloads. Community colleges, for instance, do not normally expect much of their faculties in the way of research and therefore feel justified in imposing heavier teaching loads than do the universities. Nor are their recruiting pools quite the same. A research-oriented scholar looks upon a major university as his ultimate goal both because of the prestige factor and because there is a better likelihood of being able to pursue his research interests.

Despite the differences in types of institutions which fall within the category of higher education, there will be a continuing drive for equalization of pay and benefits—naturally at the level of the highest paid! Advocates of the present system will argue that this will destroy all incentive and disregard merit. But opponents will argue that all faculties undergo much the same training, that workloads may be different in kind but should be equated in terms of total effort, and that there are perfectly acceptable systems elsewhere which utilize standard scales.

A cost formula which could be applied to all public universities, and perhaps to private universities which seek public funds, is naturally attractive to legislators. The formula approach protects legislators against having to fathom out the legitimacy of individual institutional requests, sounds equitable to constituents, and particularly appeals to institutions which benefit from it. There are nevertheless real and fundamental obstacles to the imposition of unit-cost formulas. It is impossible to end up with equal unit costs if the inputs are different, and they usually are. If the salaries of one institution are higher, or the workloads lower, or the student mix (the number of graduates versus undergraduates, the presence of professional schools, etc.) different, costs cannot possibly be the same. Innumerable studies of the problem have been made without success. Nevertheless, the forces behind formula financing are strong and will doubtless continue to press. If they are successful, the long-run prospect is for a greater homogenization of institutions.

Equal employment opportunities within universities are most sensitive at the faculty level. Government agencies are pressing hard on the affirmative action front and the courts seem more and more disposed to accept statistical results as the principal criterion of compliance. Faculties believe that they hire colleagues on the basis of finding the best qualified applicants, but both women and minorities doubt this, claiming that sex and race discrimination play an important role. The argument is further complicated by the fact that in certain academic fields there are few women or minorities, and until that supply can be increased it will be extremely difficult to find candidates. Since the ultimate judgment as to any individual's potential is necessarily subjective, it is foreseeable that the argument will tend to narrow down to whether a "qualified" applicant can be passed over in favor of a "better" qualified applicant. Proof in such cases will tend, in FDR's famous phrase, to be "iffy" but not devoid of emotion.

Perhaps the best one can say in attempting to summarize the egalitarian dimension of higher education is that the pressures will continue, and that they will inevitably bring changes. Whether those changes will be good or bad depends upon one's point of view. Certainly they will affect some very longstanding practices.

Government Controls versus University Autonomy

It is unreasonable to suppose that any government, be it state or federal, is going to appropriate very large sums of money for higher education without attempting to impose conditions as to the use of the money. Once upon a time, however, the controls were minimal and institutions were relatively free to go about their business. This has been changing rapidly in recent years.

At the state level the executive office or the legislature, or both, indulge in the imposition of cost and workload formulas, line-item budgeting, student-staff ratios, go or no-go decisions on certain curricula, control over capital expenditures whether publicly or privately funded, and a whole host of other things. The federal government makes receipt of its funds contingent on compliance with such controls as apply to research on human or animal subjects, safety requirements of the Occupational Safety and Health Act, nondiscrimination on the basis of race, sex, ethnic origin, or handicapped status of the individual, etc.

Experience suggests that these controls are a very mixed blessing. Who can deny the right of a government agency in dispensing taxpayers' money to impose some conditions as to its expenditure? Who wants to be against cost efficiency, a fair day's work for a fair day's pay, elimination of duplication, protection of human and animal subjects against research abuse, discrimination on grounds of race, sex, ethnic origin, or handicapped status, or safe working conditions?

On the other hand, control systems tend to be very badly administered. One wag has said that their greatest saving grace is that we do not get all that we pay for! Government agencies which impose voluminous reporting requirements have no money to award for the support of staff who must prepare such reports, nor do they have sufficient staff to examine the reports once they are prepared. The net result is all too frequently massive reports, prepared at untold time and cost, which lie unread in some government office. Nor is there much evidence that the final result, in budgetary terms, is affected.

Worst of all, perhaps, is the difficulty in getting advocates of controls fairly to face the question of whether the controls are accomplishing the purpose for which they were enacted. Individual states, for instance, have moved increasingly in the direction of coordinating agencies designed to reduce costs by eliminating duplication and making more efficient use of existing facilities. One would suppose that any new state about to consider whether to establish a coordinating agency would want to compare the experience of coordinated versus uncoordinated higher education systems. If it cannot be shown that a coordinated system does, in fact, produce a more cost-efficient system or one of higher quality, the expenditure necessary to support the coordinating mechanism might better be saved. To the surprise of many people, this did happen recently in Michigan when the Governor's Commission on Higher Education found that the relatively autonomous state institutions of higher education were working remarkably well as compared with other states which had mandatory coordinating systems.

Those who feel that a high degree of autonomy in academic institutions will better serve the society than government controls must nevertheless expect to fight a continuous battle. The cost of higher education is very great and will therefore be a legitimate subject of legislative and executive scrutiny. Social objectives, like safety, health, and equality, will be good causes which no one can be against. The result will be somewhat like the current battle against inflation: everyone is against it, but few can agree what should be done about it. Some will advocate controls, which are admittedly both hard to administer and of somewhat doubtful effectiveness, while others will insist that with only minimal guidelines the economy should be allowed to work its way out of the difficulty. Neither view is likely to be subject to definitive proof since the elements in the equation cannot all be kept under control while the test is being conducted. So it is likely to be with higher education. Advocates of controls will cite abuses, pass laws, and set up control agencies. Opponents will agree that there are abuses, but argue that experience does not suggest the efficacy of controls, and therefore propose voluntary guidelines as an alternative. Legislators are likely to adopt parts of both theories, that is, laws designed to correct the abuses will be adopted, but financial support for their enforcement is likely to fail in the face of other demands. Enormous amounts of useless effort will then be expended in preparing unused materials, but in the process practice may change sufficiently so that some progress toward the declared objective is made. Meanwhile the system is likely to be frustrating, time-consuming, and overly bureaucratic. There ought to be a better answer, but so far there is little evidence that we have found it. One thing is clear: educators, who spend their lives in academic institutions and who ought to know more about their problems than outsiders, are losing some of their influence. This will only serve to please their critics, who will doubtless say that education is too important to be left to professional educators.

Economic Problems

Perhaps the most serious of all current problems for institutions of higher learning are those associated with the economic viability of the institution. Inflation is the great culprit. During the period when it was running at less than a 5 percent level there was some inevitable erosion in the university base, but at the present level, which seems to be in the neighborhood of 10 to 12 percent, there is no way in which universities can keep pace with current levels of support.

In industry manufacturers rely heavily upon their capacity to increase productivity as an offset to rising costs. But as all students of productivity know, the so-called service industries are least able to increase productivity significantly because they are labor intensive, i.e., a large percentage of the total cost is attributable to personal services. This is the case with education. An institutional budget will run in the neighborhood of 70 to 75 percent of its total costs attributable to wages and salaries. Significant changes in this ratio can be effected only if personnel costs can be reduced. Educational technology, about which one hears so much, has so far not produced important cost savings though it may have improved quality.

As inflation accelerates employed personnel grow understandably uneasy about the erosion of their economic base. If unionization of academic personnel in institutions of higher education increases in the period immediately ahead, the economic motive will surely be a prime factor in the development. So far there is little evidence that state legislators are going to be moved to increase appropriations to offset inflation. Assuming they do not, increased costs can be funded only out of tuition rises or improved endowment income. As of this moment the latter is falling off in real terms rather than improving, which leaves only tuition as a source of income. Private institutions are increasingly hard pressed as they are forced to raise tuition and then compete with public institutions having lower tuitions. And public institutions are, with considerable popular support, resisting tuition increases as a means of financing the institution. Meanwhile, loans have become the most fashionable way of financing student needs while in college. The equity in asking a student to finance a part of his educational costs through loans is apparent when one examines the improved income expectations which flow from the education. There are nevertheless worrisome implications in placing too heavy a reliance upon loans as a major source of financial support for the student. At present cost levels the amount of the loan is very sizeable by the end of the undergraduate term, thus posing both significant payback problems and an almost insuperable bar to continued graduate or professional studies. If the loan program is pyramided by further studies, or augmented through marriage to another loan recipient, the temptation not to repay the loan becomes very great. The conscience of the student can be salved by the knowledge that his predecessors were more heavily subsidized by the public, and that in a sense his education was rightfully owed to him. There is evidence that the default rate on student loans is rising and that too heavy reliance on the loan mechanism may result in massive losses and a severe curtailment of loan programs.

The amounts of capital outlay needed for new or remodeled facilities are rising at a rapid rate, thus making it more difficult to maintain a high standard of facilities. The cost of much needed educational equipment is also rising at a faster rate than the general cost-of-living index. Library acquisitions are a good example of this trend, yet nothing is more essential to the life of the institution.

In the face of greatly increased costs accompanied by diminished or limited income sources there is no alternative but to cut costs. For those observers who are confident that all agencies tend to be "fat" with unneeded appendages, this poses a happy prospect. One of the things they overlook in so simplistic an analysis is that since inflation has for many years run higher than increased appropriations to account for it, university administrations have been trying for some time to pick up some of the slack by cutting into their own enterprises. While everyone will agree that some of the things which the university does are more important than others, there will be little internal agreement as to what the less important functions are and even then they will always tend to be in the realm of someone else. Internal cutbacks are therefore hard to effectuate, though this is not a reason for refusing to face the problem.

Aside from pruning costs by the elimination of tasks, tinkering with workloads will also produce usable money, though at the expense of releasing some personnel. One could increase the size of classes (already large by European standards), diminish the number of classes (which runs contrary to the student desire for more flexibility), or increase the total enrollment (which is thought by most legislatures to be a bad thing, particularly if other institutions are lacking in enrollment). Faculty members who study these possibilities will realize immediately that to engage in any of these devices will pose problems in controlling the end result, and may not in fact redound to their economic advantage since the legislature might simply reduce the subsidy by a like amount.

In short, the financial prospects of universities in the foreseeable future are dim. Costs will continue to rise, while income is likely to fall short of keeping pace. Pressure for wage and salary increases for both academic and nonacademic employees will exceed the institution's capacity to respond, thereby resulting in some cutbacks in personnel (probably through attrition) so that the available resources can be spread over fewer people. This will further aggravate the market for new Ph.D.s, but is probably unavoidable. Tuition will inevitably rise as the cost of living continues to go up, but resistance will grow and, with enrollments falling, institutions will be less willing to let tuition rise. Endowment income is at best uncertain in a world which seems to be in the throes of a major international financial realignment, and in which the American position is less strong than it once was.

Conclusion

If the foregoing sounds pessimistic, it is intended to be simply realistic. The world is very different from what it once was, by an order of magnitude to which we are not accustomed. If the events of the last ten years have proved anything about universities, it is that they cannot be isolated from the society in which they exist, and that they are enormously resilient institutions. They will survive the frustrations of government controls and financial adversity, and they will come to terms with egalitarian pressures and the philosophical debate over their relevancy to the manpower needs of the society. In the last analysis, whether they are better or worse institutions will probably rest in the eye of the beholder, which is perhaps the way it must always be in a democracy.

ERNEST BARTELL

The Enduring Non-Crisis in Higher Education

When the university Assembly on Goals and Governance of the American Academy of Arts and Sciences developed its 85 Theses, it rightly suggested that the student and faculty unrest then gripping the campuses was not the issue that would determine the future course of American higher education. The Theses instead articulated the broader educational issues that would face American higher education after the period of student unrest had subsided. Quite rightly it was believed that the student movement of the late 1960s was being treated by the academic community under the influence of popular pressure with a seriousness unwarranted by either its likely duration or lasting impact on the future of higher education.

The rapid return of quiet to the campuses has vindicated this perspective, perhaps more quickly than anyone might have supposed. Moreover, center stage has since been taken by a financial crisis, particularly in the private sector, that dominates the thought of educators, again with pressure from the popular media, as intensely as the campus protests of the late 1960s. Educational costs were suddenly seen as locked into an inflationary trend that exceeded inflation within the economy at large because of the peculiarly inexorable labor-intensive technology of the educational process. At the same time, the inability of growth in real incomes of families and governments to keep up with cost increases plus declining birth rates and other downward pressures on enrollment have already dampened the growth in revenues of the nation's colleges and universities with resulting predictions of financial doom for American higher education.

But the relative ease with which student unrest earlier passed from the scene suggests to cooler heads that the financial problems that more recently have plagued the campuses will themselves pass as another obstacle overcome in the long history of the growth of higher education. New forms and amounts of public assistance, a bit of managerial expertise in educational administration, the demise of a few of the less fit institutions, and the continuing tradition of healthy development in a fundamental institution of American society might be optimistically predicted.

It is probably correct to assume the ability of anything so basic as the tradition of higher education in American society to overcome crises, and financial exigency need be no exception. Already major institutions that had earlier announced alarming deficits are reporting balanced budgets; and Dr. Cheit, who in one of the earlier monographs in the Carnegie series on higher education had announced the spread of financial crisis as the New Depression in Higher Education, was able to come out with a sequel before the termination of the series with a more optimistic report on the efforts of colleges and universities to cope with their financial difficulties. Delays in the implementation of proposals for increased public support of higher education at state and federal levels, while painful, offer educators the opportunity to impress upon the public and legislatures more specifically and pointedly the urgency of financial needs.

Meanwhile, educational administrators learn the painful techniques of cost-cutting already long familiar to their colleagues in the profit-maximizing worlds of business and industry.

The passing of panic over violence on the campuses and cash in the bank accounts of higher education gives evidence of a tenacity for survival that is undoubtedly encouraging to the supporters of higher education. The important questions facing colleges and universities in the years ahead are not the questions of institutional survival. The importance of both student unrest and financial crisis arises not in the question whether the institutions can survive these new challenges, but whether they can continue to embody the vitality that has historically identified the institutions of higher education and made them attractive to so many of the best minds in the country.

Colleges and universities have retained a broad base of public support and social priority, even in the face of streaks of anti-intellectual bias in American society, because they have continued to attract the best people in society as students, as faculty members, and as educational administrators. No other institutions in American society have such a common tie to personal and professional achievements across such a broad range of human interests in business, politics, science, the arts. No other institutions have been called upon to tackle the range of personal and social concerns that we as a people consider important—problems of individual and social well-being, of government technology, medicine, training and preparation for life and career. Organizationally, the institutions expected to work such magic have been a mixture of business enterprise, academy, anarchy, collective and competitive battle ground. What has made them viable have been the people who have brought exceptional aptitude and will to common enterprises of education and scholarship. Indeed, it is the presumption that the colleges and universities offer entree to the ranks of the great and near great that has made the institutions the special targets for minorities seeking access in a society that discriminates economically, socially, and politically.

As anyone who has attempted an honest evaluation of academic programs knows, both the objectives of higher education and the means to attain those objectives are difficult to specify unequivocally and measurably when compared, for example, with the pursuit of profits in industry or even electoral success in the political process. The institutions that nurture the educational process are correspondingly fragile and vulnerable. Indeed, despite the commitment of educational institutions to reason, little attention has historically been spent on rational analysis of models of higher education for specific objectives. Rather, because of the quality of the people engaged in the educational enterprise, higher education has been able to elicit from society a continuing act of faith and trust in its institutions, an act of faith that has been justified by the continuing ability of the colleges and universities to attract people of quality as scholars and educators and by the achievements of their students in virtually all sectors of society. What the student crisis and the subsequent financial crisis together indicate is not a threat to survival of colleges and universities, but the possibility of new institutional constraints that will make the colleges and universities no longer attractive to the kinds of people whose presence on the campuses has defined the special identity and quality of the institutions and elicited the support of society necessary for their continuity.

The challenge to survival of the freedom of educational institutions posed by student violence and disruption on the campuses passed quickly enough, but the posture of defensiveness has remained. On many campuses democratization of the educational process and of its structures of governance was seen as the appropriate defense against the threat of revolution and anarchy. Hence, many campuses became politicized with the introduction of structures for representative participation in all segments of the campus community and in virtually all aspects of the determination of campus policy and administration. Elective tripartite bodies of faculty, students, and administrators replaced or, even worse, were added to previously existing committee and individual decision-making responsibilities. The overlay of democratic procedures chosen willy-nilly and inserted into existing schemes for educational decision-making (which were probably ill-defined for good reason, considering the nature of educational objectives) can create on the smallest campuses a complex set of organizational constraints.

As long as all segments of the campus community remain politicized, the new procedures can serve some purpose in conflict resolution, but the expenditure of so much time and effort on a single element of campus life, administration, must inevitably constrain other elements of the educational process. Above all, such complexity diminishes the attractiveness of the educational institution for those who wish to pursue educational objectives that go beyond the internal political preoccupations of the campus itself.

On the other hand, loss of interest in the politicization of the campus in favor of other educational pursuits by those in the educational community can leave a burdensome structure of governance without sufficient personal interest for it to operate in the way its activist founders intended. With a new generation of less politically involved students, hard-won student places on various boards and committees can often scarcely find any takers, and the same is frequently true of faculty interest. The new structures do not go away by themselves, but remain available to those who wish to use political access to campus decision-making for their own personal or professional ends.

With stability in other parameters of the process of higher education, colleges and universities might well have come to terms with new foci of decision-making after a bit of pruning and discreet neglect of outmoded and burdensome bureaucratic procedures. But before the effects of the campus unrest on educational decision-making could even be properly evaluated, the so-called financial crisis began to impose its own imperatives on the educational process. Suddenly the adaptation of managerial techniques for efficient allocation of scarce funds began to be urged on institutions of higher education as the rational response to soaring operating deficits. Deficits in the labor-intensive educational process appeared when traditional sources of revenue could no longer keep up with increases in the costs of education that had grown faster than the general price level throughout the 1960s, principally because increases in educational labor costs could not be offset by technological changes comparable to those in other sectors of the economy.

The managerial model arrived just at the time when the age-old problem of defining fragile and relatively intangible objectives—the purposes and achievements of higher education—was being further complicated by campus upheaval and the demand by students and faculty for greater say in determining the appropriate definitions. The techniques of cost-accounting and cost-benefit analysis, borrowed from business and industry where it is possible to get a handle on objectives, at least in the measurement of profits, output, and sales, simply added another layer of uncertainty and complication to an educational decision-making process that was already increasingly oppressive to those attracted to higher education because of its relative freedom from the distractions of the political and economic games that occupied the time and energy of so much of the rest of mankind.

At the same time, attempts at economic rationalization brought to light still further the fragility of organizational models that had been taken for granted in the development of American higher education. American universities in many ways have come to resemble conglomerate mergers of educational activities whose complementarity had generally been assumed without further justification. The complementarity came into question during the period of campus upheavals as research faculties found themselves disturbed by political activities of students and teaching faculty, particularly where the research was "war related" or had some other political significance on campus. With research and development monies abundant in both public and private sectors, there was talk of separating many research activities from the campuses to independent agencies or research and development units linked to private industry.

The subsequent financial pinch, however, put pressure on the tranquility of the conglomerate university model from another point of view. The curtailment of external research support from government and industry coincided with inflation in the costs of undergraduate and graduate instruction so that these three traditional activities suddenly found themselves competing for limited internal funds. With the application of the managerial model to higher education, it became easy to ask disturbing questions about equity and efficiency that faculty and administration had not had to confront during the growth period of the 1950s and 1960s. "How much of a student's tuition can and should be used to subsidize research activities and their faculties?" "How much revenue do individual departments and faculty members account for when measured by student contact hours or other 'output' indicators?" Questions such as these demand an accountability different from that embodied in traditional models of higher education. They threaten accustomed tranquility and introduce new sources of conflict among the participants in the educational process. Themes of survival and security threaten to stifle an atmosphere that is supposed to be supportive of wonder, discovery, and creativity among students, faculty, and all those engaged in the educational enterprise. Academic life suddenly appears, if not terribly inferior to alternative styles of life and career, no longer distinguished by nobility of purpose and the liberating means to attain it.

Moreover, the growth of higher education itself through the golden age of the fifties and sixties created a series of stresses upon traditional models of higher education that have forced upon us unanswered questions about social accountability and the future effectiveness of these traditional models. The rapid expansion of the public sector in higher education, on the one hand, has finally brought close to realization political and social goals of equality of educational opportunity, at least through broader access to postsecondary educational opportunities. At the same time, however, it has altered the traditional security of the private institutions that served as models for so much of the expansion of both private and public sectors.

The financial threat to private institutions posed by the competition from lower-priced public institutions has forced the private institutions into political maneuvers for public financial support that once would have been considered unseemly, if not improper. It was one thing in the public eye for brilliant researchers in the sixties to solicit public support for pushing back frontiers of knowledge, but it is something else for public colleges and universities to lobby for increased funds for further expansion, while arguing against student aid bills that might divert potential students to the empty places in private institutions. If one of the props of the traditional models of higher education was a certain genteel detachment from the grubbier concerns of human existence, for the sake of a precious unhampered free intellectual inquiry, and if the aggressive academic jet-setters of the 1960s could be criticized for sullying this fragile model, there is even more justifiable fear that present inclinations to wheeling and dealing for institutional survival, even if successful, may achieve a dubious, if not meaningless, educational victory. When the goal is as elusive as learning, the economic and political ability of institutions to survive a competitive shakedown is not sufficient educational justification for continued existence.

Thus, the struggle for survival generated by growth and expansion that should have meant health and vigor now forces colleges and universities to question and define their institutional identities under conditions inauspicious for such an effort and even less favorable for effecting any changes that might be indicated by critical self-examination. For the private institutions the identity questions are tough ones. Large private urban universities, for example, once served the closest thing to a mass market for higher education that could be socially afforded in an earlier era. But what claim or right is established for their continued existence in an era that can afford to come closer to a goal of universal higher education through public institutions created by the fiscal machinery of the contemporary public sector?

At the same time, questions of identity for a burgeoning public sector in higher education are no less troublesome. What right, for example, do educators supported by the public purse have to duplicate at the expense of low- and middle-income taxpayers models of higher education that were created for elites out of elite philanthropic support? Even more fundamentally, it must be asked whether models of education whose economic and social justification lay at least partly in their elitism can be stretched without self-contradiction to serve a mass market. Thus, traditional models of higher education were distinguished because they catered through their programs, facilities, and services to minorities of the population who were identifiable either by intellectual aptitude, socioeconomic status, or some other particular characteristic. Even with the help of the liberal euphoria of the 1960s it is not clear that the educational institutions are capable of pluralistic adaptation to all the minorities and classes of population that are subsumed under objectives of equality of educational opportunity.

Alternatively, heavy social expenditures on higher education were once justified because these institutions happened to be efficient rationing devices for matching talented and qualified persons with the limited number of relatively more productive and higher paying positions in the national economy. The more recent "excess supply" of college graduates on the job markets suggests that mere expansion of the traditional models may not be compatible or consistent with traditional career expectations of higher education.

Economic studies of education in the 1950s and 1960s could accurately identify the sizable increments in lifetime income of people with college and university degrees. But little attention was paid, except in academic discussion, to the assumption that supply of graduates would create its own demand, and that the expansion of higher education would be justified because it would increase both economic mobility and aggregate output and income in the country. Indeed, it is also possible that the increased availability of opportunities for higher education might have contributed to the recent decline in enrollment from the traditional age cohort. For example, college and university matriculation among white male high school graduates declined by 16 percent between 1968 and 1973. To the extent that relative status played a part in the demand for higher education, it is not unreasonable to expect the loss of relative exclusivity to account for part of the decline in the demand for college admission within the traditional market.

At the very least, there should be little surprise if, in the absence of romance, potential patrons of higher education should apply a sharp measure of costs and benefits to their educational opportunities as they were taught to do in the golden age of the fifties and sixties by those who believed that the measurable returns to higher education would remain forever indisputably high. Within this climate it is understandable that new models of vocationally oriented higher education, frequently embodied in the two-year programs of new community colleges, should attract the attention of educators, while the once ignored proprietary schools are suddenly offered admission, at least in public-policy proposals, to the once exclusive club of postsecondary education. Meanwhile, institutions built on traditional models of arts, sciences, and professions find they must defend themselves against the same theories of the economic productivity of higher education upon which they relied a decade ago to justify both appeals for philanthropic support and price increases that exceeded national averages in other sectors. While once lucrative career opportunities for liberal arts graduates recede, and costs of education remain at relatively high levels, it will not be easy for traditional institutions to sell the classical noneconomic virtues of conventional higher education to the mass market upon which the expanded facilities for higher education are now financially dependent.

At the same time, it is not clear whether traditional institutions and their recent imitators in both private and public sectors are equipped to choose effectively among the hypothetical options for pluralistic development. Most well-managed and well-established institutions can with effort tailor their operations for survival in limited markets. Nor is it clear that institutions noted for loose and ill-defined distribution of decision-making authority among relatively immobile administrators and faculty with some recent overlay of postviolence student input can choose the right mix of options for constructive change. In any uncomfortable human situation the proliferation of possible remedies exceeds the capacity for rational analysis and choice. Within the loosely federated loci of decision-making in traditional colleges and universities, it may be simply unreasonable to expect the development of new programs for vaguely defined clienteles—such as the "career-minded," "disadvantaged," and "mid-career adults"—while controversy abounds over the introduction of new management options in administration, new funding arrangements with public and private sources of support, and new criteria for faculty appointments and retention.

Administration of colleges and universities has come to reflect the newer complexity of educational life. Some would see the change especially apparent in appointments to the presidencies of institutions of higher education. The relatively rapid turnover of presidents since the period of campus unrest is a familiar datum. Whereas presidents once typically held terms of almost papal duration, the current average term, said to be under five years, means that even professional academicians are hard pressed to recall the most recent past presidents of some of the nation's most distinguished institutions.

A more significant bellwether of the perceived quality of academic life may be seen in the dominant role expected of the president. Once a president like Eliot of Harvard was expected to epitomize in his own life and interests as much of what the entire institution stood for as was possible in a single human life. The president of a serious liberal arts college might well be a classicist distinguished for his scholarship as well as his humane concern for the well-being of his students. As the colleges and universities were seen more and more as the sources of leaders in public and private sectors alike, the ideal president could be expected to be something of a leader himself—one who could articulate an educational vision not only for his own institution, but for a nation and a society. Like great governmental figures or captains of industry, the president was expected to be just a bit larger than life in his own community or the world he sought to influence. During the golden age of the 1950s and 60s, when public expectations ran high in the hope that higher education would provide the keys to the good life, the most distinguished of university presidents enjoyed social roles analogous to priest, prophet, and tycoon.

When popular myths about the capabilities of institutions of higher education became strained with the divisions created by political turbulence on the campuses, the creaky machinery of traditional university governance often tended to replace exiting academic leaders with presidents distinguished for their skills in diplomacy, negotiation, and legal expertise. To a departing generation of academic leaders, the age of giants was clearly ending. Moreover, when campus unrest gave way to budgetary deficits as the dominant concern of educational administration, search committees and trustees began to elevate executive types with notable credentials in the definition and application of management criteria for the allocation of financial and human resources.

These administrative responses to educational problems currently perceived as significant might suggest that there is more life in the old institutions than we suspect. In fact, it is precisely the lags built into the structures of institutions designed for a more leisurely and detached place in society that can be the undoing of well-intentioned responses such as these. Once the colleges and universities joined the mainstream of social, economic, and political life in the pursuit of prominence, it became necessary to embrace the whole panoply of human problems—not at the level of self-paced academic speculation, but at the gut level of practical decision which is the lot of the larger world. Even the most noble of principles—such as universal higher education, equality of educational opportunity, and creative educational innovation—could have devastating practical implications for the educational institutions and systems that sought to incorporate them.

Given the complexity of practical problems embraced by an overextended system of higher education, any one of which might suddenly be perceived as dominant because of forces beyond the control of institutions, the lags built into the traditional process of educational administration may produce well-conceived responses that are simply inappropriate by the time of actual implementation. Some of the seeds of local campus unrest were probably already sown while academic leaders on the campuses vied with one another to assume the challenges of service to solve ever larger national and international problems. Mediators arrived on the campus administrative scene just as apathy began to replace unrest and financial problems demanded attention. Skilled managers arrived to lead as reports appeared that solvency was not quite so critical and immediate an issue, and so on. For the sake of exaggeration, if the streaking craze had not self-aborted so quickly, a new breed of moralists and psychologists might have been expected to appear just as students moved on to better-clothed interests.

The lag in the appointment of administrative leadership must not be understood as singularly decisive, but rather as exemplary of lags built into the operation of institutions of higher education that cumulatively hamper the ability of the institutions to respond appropriately to the range of issues that they have helped create for themselves. Indeed, at a time when vision and versatility are at a premium within academic institutions, many colleges and universities are saddled with a recent overlay of participatory bodies for making decisions, policies, or recommendations that not only delay decision and diffuse focus, but possibly conflict and neutralize one another. Participatory governance is a rich and admirable principle, but its implementation by academic institutions, hastened by the pressures of campus unrest a few years ago, has not only lacked an abundance of creative insight since that time, but has scarcely tried to avoid the pitfalls encountered by other institutions of society with long experience in participatory decision-making. The conventional quota system of representation on committees, boards, councils, and task forces in academic communities noted for individualists among faculty, administration, and students can scarcely be expected to work better in the pursuit of elusive educational objectives than it has done for the nominating conventions of political parties in the recent past.

In retrospect, it is easy to conclude that the traditional position of faculties should have been examined long ago in light of changing goals and assumptions of higher education. Realistically, it was a sellers' market for faculty services until relatively recently, except at the best established traditional institutions. These institutions unfortunately set the standards for imitation by the rest of the world of higher education despite the obvious impossibility of reproducing the mythology of their unique position among the host of imitators. Hence, it is not surprising that at a time appropriate for re-examination of faculty hiring, promotion, and retention in light of the changing role of higher education in American society, the imitators of traditional educational models were locking themselves into conventional procedures more rigorously than their mentor institutions ever had done. After all, a distinguished old institution might on occasion deviate from AAUP norms without question of its integrity, but no such freedom could be accorded to the imitators struggling for institutional prominence. In a sellers' market for faculty, this could only mean rigid and burdening salary and tenure commitments by institutions seeking to compete with the more financially and academically secure models they sought to imitate. The scramble among expanding institutions in public and private sectors alike for established senior faculty and promising junior faculty in traditional disciplines left little time for serious curriculum planning, for anything except an extension of the academic status quo.

On the other hand, the end of exuberant growth, the popular demythologizing of the importance and purpose of higher education after a brief post-World War II and Sputnik romance, and the resultant buyers' market for faculty hardly provide auspicious circumstances for creative institutional responsiveness to educational change. It may well be true that with allowance for the quarter century after World War II, academics in America have had no cause to expect wealth, fame, and power from their calling, except on a relative basis among their peers. Very many of the faculty trained during the golden age of the 1950s and 60s, however, were liable to seduction by the growth in status, influence, and income they witnessed as they struggled through the initiation process for their professions and disciplines. The process itself, particularly in the training received within the graduate schools, did little to prepare the largest outpouring of professional academics in the nation's history for anything except growth in the opportunities and rewards they witnessed. Much has been said and written about the failure of the university graduate schools to prepare their students for the diversity of educational forms implicit in the goal of universal higher education.

Perhaps not enough attention is paid to the impact of disappointment and lowered expectations on the willingness of today's faculties, who were yesterday's graduate students, to respond with imagination and common purpose to the challenges faced by the institutions in which they now find themselves. No new professional self-image is immediately available to faculties deprived of the sense of public esteem and unlimited opportunity that enriched the professional identity for which they prepared. Hence, there should be little surprise if traditionally trained faculties respond to current challenges with defensive resistance to new proposals which further dilute their professional self-image and the economic security it traditionally implied. While the professional atmosphere of traditional institutions might still enforce a discretion that rules out more blatant organized forms of resistance—for example, through *unionization—the loose lines of authority to highly prized faculty autonomy in the* traditionally liberal academic atmosphere provides unlimited opportunities for faculty footdragging in response to new curricula, new forms of accountability, and new models of academic planning that arise in response to current institutional needs.

If we cannot look to administrative and faculty structures for initiative in educational change, then perhaps we must turn to students to provide the necessary impetus for cooperative change. But this brings us back full circle to reasons grounding the present plight of colleges and universities. High tuition charges, poor job opportunities for graduates, and the loss of a sacral image for higher education in the public eye have made dropping out or simply failing to enroll socially acceptable options for today's students. But these options can dissipate the energy that in an earlier era would have led students to make the most of the educational opportunity they accepted uncritically by seeking out the best faculty and programs or even, for a brief period in our educational history, by collective protest.

But if some of the best potential students are not even enrolling or if, once enrolled, they are unwilling to accept the responsibilities for educational change which their older brothers and sisters won for them in the jungle of academic committees, and prefer instead to move critically from program to program and institution to institution in ways that oldtimers might call disloyal, they are not likely to be conscious agents of institutional change. Meanwhile, if some of the best students are not turned on to careers in higher education, the single most important element in guaranteeing the future prominence of higher education in our society will be threatened; the best institutions of society are finally the ones that can attract the best people.

None of these comments about the structures that determine the viability of colleges and universities threatens survival, for these are the common problems of human organization, in industry, government, and the churches. And institutions have a way of surviving for long periods at levels of uninteresting mediocity in the attainment of their original purposes.

But what justification is there for mediocrity in the attainment of so fragile and elusive a goal as wisdom and understanding? The real issue facing colleges and universities is ultimately not one of survival, but justification.

WALTER P. METZGER

The American Academic Profession in "Hard Times"

How, AFTER THE strains and perturbations of the last half decade, does the academic profession in this country fare?[1]

The answer to this question hinges heavily on how professional fortunes are assayed. Depending on the terms of reference and comparison one uses, one can be rendered cheerful, fearful, or despondent about the lot of the American academic profession at the present time. Thus, those who appraise it as a work arrangement are still likely to shower it with compliments, some of which they would apply to all professions, some to it alone. Vital statisticians still report that professors, like other professionals, have better-than-average life expectancies, succumb less often than do manual laborers to alcoholism, violence, and tuberculosis (they do suffer an excess of mortality from neoplasmic and arteriosclerotic illnesses), and rank low among all workers in frequency and severity of job-related accidents and ills.[2] Impressionistic evidence would suggest that, in some ways, their work environments are singularly salubrious. Except verbally, the air of the lecture hall and classroom is relatively unpolluted; only during student flareups and fiestas is it plagued by noxious sounds and smells. (The oral and olfactory indulgence of professors has a long tradition, going back to the efforts of medieval townsmen to hold on to their ambulatory masters by offering them quiet quarters on a fragrant street.[3]) In the matter of conveniences, the academic job is not exemplary; there are levels of executive sumptuousness few professors ever hope to reach. But studies of this subject reveal that professors enjoy an unusually wide range of amenities that most other professional workers do not receive: recreational benefits (about half of the faculties of the nation have access to campus swimming pools, about a seventh to campus golf courses), domiciliary benefits (about 60 percent of all academic institutions own houses or apartments for the use of faculty, and about 60 percent of these charge rents below commercial rates), educational benefits (nine out of ten private institutions waive some or all tuition for faculty children attending those institutions), sociability benefits (about half of all institutions provide social facilities for their faculty, and about a seventh maintain faculty clubs).[4] Beyond these and similar benefits (which only someone with a genius for underestimation could call "fringe"), there remain the long remunerated leaves and vacations, which are still a source of status incongruity, giving to persons on modest incomes a perquisite once reserved to the princely rich.

To be sure, it is not without fear and grumbling that professors nowadays count these blessings. Some of the delights of being academic were not widely dispersed through the system until the 1960s, when many new and newly enriched institutions raised their bids for academic scholars, then deemed to be in short supply.[5] In the more exigent circumstances of the seventies, institutions are cutting down on supporting services for the faculty, doing less to tempt recruits and retain old hands. Moreover, some academic work advantages, once secure, now seem less sure to last

In their ordinary rounds of work, academics are seldom made to feel that they are being watched, and are not usually required to punch a clock—acts that signify in other settings the routinization of worker talents and the ultimate dispossession of the working self.[6] Seldom are they made to taste the worst embitterments of aging: the sense of standing still in place (most academics, if they are on the tenure track, will reach full professorial rank before retirement); the prospect of early debilitation (academics are not called upon to be physically strong; insofar as they are expected to be wise, they may count long experience as an advantage); the fear of premature displacement (academics enjoy a relatively late mandatory retirement age—the common minimum is sixty-five—and are saved by tenure regulations from the cruelest designs of the rival young). Today, economic stringencies, working together with certain long-standing public jealousies, are raising the demand for greater faculty accountability, slower faculty promotions, and earlier faculty retirements. Still, it would take a level of impoverishment and a degree of animus not yet evident to erase the profession's differential advantages, and it would take very black imaginings to foresee the day when the academic job did not stand among the most agreeable this society has been able to contrive. Significantly, in overwhelming numbers, academics still declare that they are content with the field of work they have chosen and would choose it again if they had the chance.[7]

Also gladdening is the message of the occupational prestige-rankers: in the pecking order of vocations, the academic still ranks very high. Social historians who group occupations into a six- or seven-level hierarchy invariably conclude that no matter where a worker in America began, if he wound up as a college professor (or as a doctor, lawyer, or clergyman), he could not have been downwardly mobile.[8] These are retrospective estimates using broad occupational descriptions, but contemporary rankings based on finer categories arrive at much the same result. Asking representative samples of the public to rate the "general standing" of 90 occupations defined by title, survey analysts at the National Opinion Research Center found in 1947 and again in 1963 that "college professor" came out seven and eight notches from the very top, below Supreme Court justice, doctor, and state governor, but ahead of lawyer, engineer, and minister, as well as of diplomat and banker.[9] These were popular subjective judgments; other analysts, using more objective indicators, place this profession on an only slightly lower perch. Employing an occupational prestige index that combines the educational and income levels of participants, Peter Blau and Otis Duncan found that the score value of academics fell below that of physicians, lawyers, chemical engineers, and bankers, but exceeded that of over a hundred cited occupational groups.[10] There has been no follow-up of these studies, but there is evidence to suggest that neither the crowding of academic ranks in the sixties nor the recession in the academic economy in the seventies has made this profession *declassé*. When publicly assessed in Gallup polls for "suitability" or attractiveness among 9 leading professions, the academic rose from seventh in 1953 to third in 1962 and held that place until 1973, when it fell one rung in order to make room for the suddenly resurgent field of law.[11]

If all these findings can be believed, American professors are much more admired by their countrymen than they have generally been willing to concede. It is perhaps in the nature of such data that they cannot be wholly believed; one may argue that there are wells of anti-academic animus, fed by political, ideological, and even ethnic prejudices, that survey instruments simply cannot plumb. Surely when John Ehrlichman at the Watergate hearings responded to a question put to him by counsel Samual Dash with the comment "anything you say, *Professor*," he was not genuflecting to that title, but calling names. Nevertheless, it does seem that the title engenders less mock deference than it used to, and that professors, if not universally beloved, are less likely to be publicly scorned. After all, the Select Committee of the Senate did turn to a law professor when it sought legal and inquisitorial skill, as did the Congress when it named the first Watergate Prosecutor; and even an Administration known to be cool to academics as a species turned to its members to head up the Treasury Department and the Federal Reserve Board, and to take charge of foreign affairs. It may be that the picture of professors counseling and consorting with the powerful (a picture snapped so often that it no longer needs an identifying caption like the "Wisconsin Idea" or "Brain Trust") does more to elevate their occupation than a widespread sense of what they do when they work at home. If so, it is not only the outbound traffic that affects the rating. A Kissinger setting out from academe to the seats of power passes his professional breathren coming back: a Galbraith returning to his faculty, a Rusk desiring to find a faculty, a W. W. Rostow hoping to be restored. The emigrant bespeaks his profession's potent competences; the repatriate proclaims its social respectability, its harborage value, and its twilight joys.

But viewing this profession from the college business office—or from the higher vantage point of commissions on the financing of higher education—offers a much less heartening perspective. In 1971, Earl F. Cheit published his chilling discovery that almost three-quarters of his sample of academic institutions, representative of every type, were in or headed for financial trouble.[12] Since then, various surveys and self-reports have shown that, although some institutions have been able to stage recoveries (usually described as precarious), others have entered the danger list; thus, the proportion of the afflicted to the nonafflicted has probably remained about the same.[13] By way of explanation and prognosis, students of the academic economy often focus on aggregate variables, identify their several subcomponents, and then plot and extrapolate their respective curves. By this means they have ascertained that total academic current expenditures rose by a phenomenal amount between 1957 and 1968 (from $3.5 billion to $18.5 billion); that the total revenues available to the system rose in that period at a redeeming rate; and that thereafter the leveling off of federal outlays for higher education (measured in absolute dollar amounts), the decline in the rate of increase of state support (measured in amounts corrected for inflation), and the fluctuations in voluntary and foundation support created a shortage of moneys that put an end to the spending spree. The system as a whole remains in balance, but its institutional units experience mild to acute distress, since the obligations assumed when the taps were flowing must now be met by drawing on reserves, reduced to match the remaining trickles, or cast aside.[14]

The merits of this kind of system-wide analysis are that it takes a panoramic view of a checkered territory and offers national policymakers helpful guides. But this approach is not without its pitfalls. Some of the facts it uncovers can be misinterpreted; some of the conclusions it reaches can be misapplied. Because the rise in academic expenditures during the sixties was swifter than both the increase in enrollments and the rise in the cost of living—in major private institutions the educational cost per student rose three times faster than the general price level—one may be prompted to conclude that the academy had been profligate during prosperity and should now justly atone for its spendthrift ways.[15] But the truth of the matter is that most incremental spending in this period went to cover the cost of added functions—the establishment of graduate institutions on pre-existing collegiate bases; the re-equipping of the physical sciences and the adoption of new and elaborate research programs; the assumption of new responsibilities to the community and to the principle of equal access to education. On the whole, the academy is now paying not for having been overliberal, but for having been overtaxed.[16]

Another liability of this approach is that it tends to confuse transient fluctuations with long-term trends. The downturn in corporate contributions—initially diagnosed as an abatement of the private propensity to give—has turned out to be a temporary tightfistedness, probably caused by a dip in corporate profits. The decline in the rate of increase in real state support—at first thought to reflect the academy's inability to compete with other burgeoning social needs for the overstretched and perversely taxed public dollar—has turned out to be attributable, at least in part, to the failure of state budget agencies to anticipate the high rate of inflation.

But perhaps the worst demerit of the art or science of global bookkeeping is that it fosters the impression that the micro-situation (the condition of particular budgets) may be understood by analyzing the macro-situation (the income-outgo of the academic economy as a whole). In fact, each institution of higher learning has its own compelling peculiarities: its own managerial resourcefulness and ineptitudes, its own programmatic attractiveness, its own mix of sources of support. The decline in federal contributions, important to an institution with a medical school and a space program, does not mean much to a four-year teaching-centered college, while a leveling off of tuition income, which constitutes only a quarter of academic revenues overall, may inflict enormous hardship on a college heavily dependent on its paying guests. In a certain sense, moreover, there is less desperation in local affairs than usually meets the distant eye. Institutional budgets are not responses to an inescapable givenness; they are numerical expressions of men's wishes, interests, and prejudices, operating within a relatively broad or narrow set of resource constraints. The budget-maker is seldom entitled to the phrase "I can do no other"; words like "exigency" and "recession" unduly mask the large province that is left to will. This is not to suggest that the distress signals now being emitted from every type of institution in every region are cries of "wolf" that should be ignored. In the first place, those who send them out believe them, and this conviction, in itself, has the power to shape behavior. In the second place, though state and local appropriations have been rising and voluntary contributions have resumed their pace, there are more institutions now than ever before at the receiving end. Thus, a moderately growing plenitude may still yield rather skimpy shares. Finally, soaring prices inflict ubiquitous pains. As long as the bill for one year's utilities can wipe out the effects of last year's frugalities, no institutional fisc is really safe.

What does the profession have to fear from the pervasive fact (or sense) of financial crisis? It need not fear that many of its institutions will close their doors. Except for small, unrenowned, and unendowed private institutions, which pass from invisibility to eternity as soon as a public alternate appears, academic institutions in this country—at least since the antebellum period—have shown a remarkable capacity to survive. Even during the Great Depression, the rate of academic bankruptcy was low; even today, when a good number of private institutions are running deficits and some are extravagantly in arrears, there have been relatively few academic failures, and none on the Penn Central scale.

The peril that faces this profession is not that of numerous institutional deaths in the offing, but of numerous institutional lives too dearly bought. Having to live within their means at a time when living is dear and the means are scant, institutions of higher learning will be under unremitting pressure to reduce their costs. The forms that cost reduction will take and the glosses that are likely to be put upon them are already quite discernible. Some institutions—the regional state universities and the state-system colleges particularly—will be inclined to cut their faculties when they fail to fill their enrollment quotas. A shuddering case in point is the recent dismissal of over a hundred staff members (28 of them tenured faculty members) by the state University of Southern Illinois when its annual budget ration, which is tied to student numbers calculated to the nearest FTE, was peremptorily curtailed.[17] (Heretofore, mass academic firings had been rare occurrences and most often political purges; now they grow out of a patronage issue of another sort—the drop in expected student takers—and they purport to be as passionless and nonpartisan as a lay-off of workers from a factory with declining sales.[18])

Struggling private colleges are likely to reduce their expenses by scaling down the skill requirements, and thus the salary costs, of academic positions (this will surely be referred to as "gaining a more vigorous faculty" or "ending the inflexibilities of the tenure system") or by abandoning divisions that are losing money and by taking on any program that will sell (this will surely be called "changing the college's basic mission"). Major universities may adopt the same strategies, but they are likely to do so in a more roundabout and circumspect way. If they believe they are overstaffed, they will terminate the appointment of junior faculty and adjunct professors; if they desire to replace a more expensive with a cheaper faculty, they will do so by refusing to fill the vacancies caused by the retirement of senior men; if they are convinced they must resort to surgery, they will excise a small, undistinguished department, but keep the monumental losers—the graduate school and the school of medicine—on which their scholarly reputation rests.

The worst of all strong possibilities is that academic institutions—low and mighty, state and private—will adopt the strategies used by commercial businesses when the latter are caught in a similar cost-price squeeze: weaken quality controls over production, speed up the assembly process, put lesser amounts of labor and material into a standard product but charge the customer as much or more (thus, reduce the chocolate content in the candy bar). The counterparts to these strategies in academe (which are also certain to be euphemized as reforms) would be to give students credit for individual study that requires little faculty supervision (i.e., weaken quality controls), increase the point value of courses or lower the course requirements for degrees (i.e., speed up the assembly process), increase the size of classes and the student-teacher ratio (i.e., put less chocolate in the same-priced bar). Adoption of such strategies would serve to transmogrify dollar deficits into quality deficits, which have the convenient property of not eroding endowments and not showing up on budget reports.

In so cost-conscious a milieu, it is not surprising that the expensiveness of the profession should raise questions about the value of its accomplishments. (Roughly half of all general income budgets is expended on faculty salaries.) Favorable answers to that question may be given rhetorically, but a negative answer is almost certain when (as now frequently happens) expenses are translated into work-time "inputs," accomplishments are conceived as credit-hour "outputs," and the relationship between these quanta is deemed to measure "productivity." Most users of such measures agree that faculty persons are less "productive" than the work force of the nation as a whole. Much is made of the fact that faculty productivity (measured by national student-teacher ratios) declined between 1930 and 1950 and then held steady, despite the rapid and cumulative rise in general productivity in that period, and despite the clamorous calls for academic efficiency in recent years.[19]

Stagnant productivity in one work-corner, combined with rising productivity and rising wage scales all around, induce what some economists call the "cost disease"—a progressive hemorrhaging of the exchequer caused by the utilization of a constant complement of workers to produce a constant product for which they constantly get better paid. This state of affairs is sometimes blamed on the incapacity or unwillingness of teachers to embrace technological improvements. In the sphere of manufacturing, firms increase the output of their workers by increasing the amount or quality of capital at their disposal. But in teaching, capital aggregation offers doubtful benefits: a lecturer provided with two microphones is not notably more efficient than a lecturer supplied with one. Capital improvements are not much more effective: a new technology in academe does not replace so much as join the old one (thus, data retrieval systems coexist with conventional libraries). On the other hand, capital substitutions (e.g., the replacement of live performances by electronic ones) might well reduce instructional costs. Unfortunately (so the argument goes) these are stubbornly resisted by the profession, either on the ground that they would make academic teaching too impersonal, or on the ground that they would make college teachers too superfluous. Thus, the labor-intensiveness of the enterprise, which professors often regard as its greater glory, is seen by certain apostles of cost efficiency as a self-imposed injury and a bitter fate.

To these reproaches, the profession, if it chooses, can reply. The charge that faculties are inefficient is founded on certain measures of *institutional productivity*. As far as anybody knows, the faculty's *scholarly or disciplinary productivity* (which may be measured, if it can be measured, by the number of published works per faculty person) is high and has been constantly rising. Moreover, to say that the *institutional teaching time* of the faculty has declined since 1930 is not to say that the *institutional work time* of the faculty has declined proportionately. Indeed, it may well have increased during the last few decades, as changes in academic governance, student expectations, and research funding have brought into being the professor-senator, the professor-ombudsman, the professor-financier. Clearly, professors have not exchanged teaching for idleness; they have exchanged a relatively simple role set for one of much greater complexity. Finally, it may be noted that the use of the "credit hour" as a unit of output measurement practically guarantees a low efficiency rating. An interval rather than a content, it does not take into account advances in technique and knowledge which, when imparted by a teacher to his students, may improve the latter's productivity.

Unfortunately, these aforenamed virtues do not help an institution pay its bills. Save insofar as research efficiency may generate subsidies in excess of overhead, it does not ease an institutional budget crisis. The assumption by professors of advisory and supervisory functions that had once been left to administrators or not assumed at all usually adds to clerical expenses; whether it produces offsetting dollar benefits—say, lower constabulary costs as a result of a more peaceful atmosphere—would be easy to argue, but hard to prove. And the wealth-producing powers of the student, aside from the effect they may have on alumni fund drives, matter to the local budgeter not at all. The profession gains the reputation of a laggard because it is the institutional economy that applies the test.

The status rank, the working time, the product yield, the budget line—are these to be taken as exact and sufficient indicators of where a profession stands and may be bound? No doubt, the habit of rating professions as work arrangements and productive entities does say something about how professions are perceived and, more importantly, how they perceive themselves. It should be abundantly clear, however, that something is overlooked in these varied sightings—namely, the profession *qua* profession; the thing, rather than its ambience and emanations. One hunts in vain among these categories and yardsticks for a direct indication of whether a profession, as a living culture, is adhering to or departing from its central values, upholding or forgetting its key traditions, retaining or abandoning its most distinctive features—in short, whether it is growing less or more *profession-like*.

In the opinion of this author, the academic profession in recent years has grown considerably less profession-like. This is meant to assert not that it has grown less uprighteous—less professional in that common sense—but that it has grown less distinguishable from other enterprises—that the perceived distance between the world of complex learning and the ordinary spheres of life has been reduced. Only in part can this perception be charged to the lay beholder, whose philistinism seems always in process of breaking bounds. The American public of today does seem to have acquired a fresh propensity to liken a college to a business, the fruits of learning to a commodity, the benefits to be gained from an education to the returns on an investment in stocks or bonds. As a result, the faculties of today are finding it increasingly difficult to persuade that public that they are, in some generic way, distinctive. But the more crucial point is that contemporary faculties are finding it increasingly difficult so to persuade themselves. They have grown less certain not only of what it is that makes them different from other workers, but of whether differences, even if they could be found, would be necessary, proper, or worth preserving. The slings and arrows of an untaught public may inflict lighter injuries on this profession than does its own enfeebled sense of self.

It is no news that faculties have problems of professional identity which the members of other old professions do not share. We more or less know what a medical or legal service is; given the range of professorial activities, we find it hard to state what an academic service is, except that it is rendered in institutions called colleges or universities. The specialized branches of law and medicine emerge from a stem of common preparation and common learning; the various specialties of academia spring from diverse trainings and engender loyalties and identities that are unique to each. But an ambiguous collective persona does not necessarily breed a spirit of nondistinctiveness. Indeed, it may have the opposite effect. One notes that it was not until the curriculum became diversified, and broad fields of learning were organized into separate disciplines, that the ecumenical interests of the profession gained recognition through the movement that culminated in the founding of the AAUP. Concern for the profession-across-the-disciplines fed on the deepening devotion to the profession-in-the-disciplines, with the result that faculties around the turn of the century found a common denominator in the quest for academic freedom, a peer-based system of academic tenure, and more collegial modes of academic rule.

Almost everything now on the reform agenda of the profession attests to its declining sense of specialness—the attack on academic tenure, the distrust of peer-group judgments, the challenge to institutional neutrality, the demand for affirmative action to end discrimination in academic employment practices. The point is not that these causes cannot be argued on their merits, but that the arguers (who in many cases are academics) seldom see much merit in treating the profession as a thing apart. The past travails, dangers, defeats, and triumphs of this ancient calling are seldom invoked to inform discussion. Perhaps to expect opponents of academic tenure to recall its roots in the *consortio magistrorum* or proponents of a more partisan university to remember the post-Reformation struggle against confessionism would be to ask too much of the stretching power of collective memories. But a profession fully conscious of itself would not forget its more recent antecedents. Yet plans to replace academic tenure with a universal system of term appointments are frequently put forward without reference to the use of that device in the nineteenth century, when the vascular closing and reopening of positions let ideological dismissals masquerade under other names. Attempts to reduce the faculty's powers of co-option are made without reference to the time when the powers of appointment and promotion were concentrated in the president, or to the mishaps caused by that arrangement once the classical *lingua franca* of the academy dissolved into the vernacular of specialty. Those who would give social groups representation on the faculty in proportion to their strength in their community rarely advert to the allocative schemes once imposed on public universities by rival religious denominations—often with the same demands for distributive justice; those (mostly on the left) who urge the university to take stands on mooted public issues, and who call it hypocritical and reactionary when it will not, rarely recall that it was on behalf of radical professors, threatened by rich trustees with class obsessions, that the neutral doctrine was first advanced.

As they are seldom aware that this profession has a distinctive history, so those who press for major changes are seldom willing to accord it distinctive needs. Some hold that academic tenure is dispensable because the courts can adequately guarantee the rights and freedoms of college teachers. The implication of this argument is that college teachers deserve no rights and freedom not vouchsafed to everyone else by the law. Some hold that tenure is invidious, because editors, engineers, and lumberjacks do not have it. The thrust of this argument is that market pressures are a rod and stimulant from which professors have no special reason to be spared. Often, in these discussions, two notes will be sounded simultaneously—one affirming and the other denying that this profession is of common clay. Thus, those who demand affirmative action may assert that the university, if it would only seek, would surely find superbly qualified individuals in heretofore underused social categories, and may in the next breath assert that the maximum merit principle is a trick to perpetuate gender and racial biases and that the university, like a fire department or a steel mill, should be compelled to fill group hiring quotas with persons of passing, if not surpassing, skill.[20]

It can hardly be said that the advocates of change meet with no resistance. Armed with federal laws and sanctions, and with arguments that touch the social conscience, the proponents of affirmative action have been making steady headway, but the critics of academic tenure—less well provided with such weapons—have thus far recorded only spotty triumphs, while the advocates of a more oracular university appear at the moment to be losing steam, thanks in part to the subsiding of the peace movement. This is not to imply, however, that a strong sense of professional distinctiveness is always manifested on the resisting side. Some academics actually do believe that they were put on earth to advance ideas that are new and nettlesome and that they need distinctive helps to achieve this aim. But many, without the foggiest notion of why they should regard themselves as chosen, defend their privileges simply because they like them, while others, when charged with pretentiousness or elitism for advancing claims to special functions, stammer with embarrassment or fall mute.

The extent of the slide toward ordinariness is indicated, though not fully measured, by the rise of faculty unionism in recent years. Here, indeed, is something new under the academic sun: a profession that once regarded talk about salaries as indelicate and unionizing actions as unspeakable now numbers 60,000 members in over 300 institutions—about one-eighth of all members and places—under a chosen union seal.[21] Because these numbers are currently concentrated in the public sector, especially in the emerging universities and two-year colleges, one might conclude that unionism is taking over the less professionalized territories of academia. And since some public and private academic faculties have recently rejected collective bargaining, one might conclude that this unprecedented movement is not yet an irresistible tide. But a close look at studies of faculty opinion on this subject reveals that pro-union sentiment has been rising in all parts of the profession since the late sixties, that a clear majority of younger faculty is so minded, and that even in the major universities a sizable faculty minority, by no means all in the junior ranks, favors collective bargaining in principle, however they may choose to act.[22] There is little reason to believe that any university is flood-proof or that the crest of this movement has been reached. It takes no more than 30 percent of a faculty body to precipitate a referendum under legal mandates. Moreover, more and more states are extending to government workers—and under that broad rubric to public faculties—the right to organize for collective bargaining, and the presence of rival candidates for representation on the ballots, as well as a yes-no option, may convert a lesser evil into a favored choice.

It would be going further than the complexities of academic life allow to assert that every vote for a bargaining agent is an act of professional defection. A faculty in a community college may think of unionism as a natural mode carried from the public school one flight up; a faculty in a university that was only yesterday a teachers' college may believe that professional dignity is the one great lack a union may repair. Professors choosing to be represented by the AAUP, which entered the lists late and reluctantly and which still presents itself as the keeper of older legacies, may not believe they are voting profession down when they vote collective action up;[23] professors opting for more conventional labor unions, like the American Federation of Teachers, an affiliate of the AFL-CIO, may look for the most powerful alliance and not perceive that they are marrying outside the faith. And some faculties organize defensively, either to hold their own against other organized workers on their campus or to vie with other organized campuses within a multicampus frame.

Still, the actors, whatever their intentions, do make choices. When they accept a union, they choose to endorse not just an agent but a process—a process that requires them to relinquish certain professional characteristics and to place certain other ones at risk. The process begins with an abandonment: the faculty concedes to an external agency—the National Labor Relations Board in the case of sizable private institutions, the state public employment relations board in the case of covered public institutions—the right to determine whether part-time faculty as well as full-time faculty, nonteaching professionals as well as teaching professionals, law professors as well as English professors, constitute an appropriate bargaining unit. In other words, it concedes to an external agency the right to determine its own colleagueship.[24] Usually, the process institutionalizes the principle of exclusivity—the doctrine, well established in industrial labor law, that the agent preferred by the majority of employees shall be their sole representative at the bargaining table; with this, the traditional pluralism of the profession as well as its traditional individualism are foresworn.[25]

Often the process turns out to be inimical to the continuation of the mixed roles of professor-administrant and the mixed councils of academic governance, for the law contemplates two unentangled parties identified as "management" and "labor"; when these hybrids and linkages are abandoned, a prime means is lost for reconciling a yet more indigenous conflict—that between "profession" and "organization."[26] Furthermore, since the process encourages bilateral negotiations, it discourages (though it may not always work to prevent) the intercession of student deputies giving formal representation to student views. No immemorial usage is lost when this *tertium quid* is excluded (the serious involvement of students in the running of professional affairs dates no further back than the 1960s), but some damage may be done to the old belief that pupils and dons have common interests, especially when contracts providing for higher salaries are accompanied by rises in tuitions too.[27] The risks are that the act of negotiation and the final compacts will occasion further abandonments: that the maverick propensities of academics (never in large enough supply) will be reduced by the group solidarity generated by arms-length bargaining; that the animus against closely stipulated tasks (the bias on which professionalism has always built its bulwarks against bureaucracy) will be thrown away by minute contractualizing; that the failure to reach agreement will result in job actions and strikes (with consequences that may be injurious to the student client and coercive to the nonjuring coprofessional); that, after all this, the image of professors as employees hired by a set of bosses (once deemed philistine and epithetical) will come to seem no less than true.

The foregoing are risks, not yet certain eventualities. The bargaining act and the final bargains are not predetermined. They vary with the character of the principals and with the civilities of the institution. But the bargaining game does have its own logic and momentum, and these may not allow professors to show a decent respect for the opinions of that portion of mankind called administrators or prevent them, in the bargaining process, from converting professional essentials into losing chips. An illustration of this danger is provided in the advice offered faculty novices by two players practiced in the game. "Do not be timid in your proposals," caution David L. Grahm and Donald E. Walters, for a faculty will never get more than it bargains for. Do not elect your bargaining team or try to have it represent "the full range of faculty opinion," rather, elect a team that consists of "the stronger proponents of collective bargaining" who will be able to present a united front. "Veteran negotiators realize," they go on to say, "that well-reasoned arguments standing alone win little at the bargaining table"; those arguments, they allege, mainly have the utility of solidifying and mobilizing one's own troops. In the adversary proceedings, a team member "should never openly disagree with his fellows," for that would permit the opponent to divide and conquer; nor should he "move from his stated position until the other side has moved," for compromising gestures made too early will be seen as weakness and exploited by the other side. If an impasse is reached, the faculty should resort to raising the "pressure level" of the negotiations. It should hold press conferences and write letters to the local board, or lobby in the statehouse, if that is where the purse-strings are. It should feel no inhibitions against such tactics: "Government white-collar workers, blue-collar workers, nurses, and teachers all go to the same public trough for money. It stands to reason that the strongest will drink the deepest and at present college faculties have yet to find the trough." The next step may be mediation (in New York State, where it is required by law, the Public Employment Relations Board would appoint a mediator from a list of "private attorneys, retired judges and other arbitrators familiar with labor relations"); the next step after that may be nonbinding fact-finding[28]; if all else fails, the last resort (not here regarded as horrendous) is to strike.[29] If there is a hint of professorial specialness in these counsels, it is well disguised.

We have numerous studies of the rise of professions, but few direct inquiries into the causes of professional fatigue. It is tempting, in these circumstances, to revert to the more esoteric indicators for illumination. Those who study professions as employments—the economists on Committee Z of the AAUP come to mind—are now pointing to the special vulnerability of the academic one to prolonged inflation. Employed by nonmarket firms that do not shift their full cost increases to final purchasers, seldom armed with escalatory provisions that would automatically adjust paychecks to rising prices, academics, we are told, are doubly at the mercy of the economy when it grows exorbitant. The chart of real faculty compensations over the last 60 years is presumed to bear witness to their pregnability. In every period of sharp inflation, starting with World War I, real faculty compensations dropped (in the current period, somewhat faster than real wages generally). In every intervening period, including the long period of deflationary depression, real faculty compensations rose (during the recent upswing, more rapidly than real wages).[30] The quick wisdom one might gain from this recital is that the profession's declining economic shares account for the changes that have come over it.

But this would be a crude conclusion. It is true that compared with self-employed professionals, academics do not enjoy very handsome livelihoods, and that compared with highly organized blue-collar workers, they have lately been losing ground.[31] There is also evidence to suggest that academics with low salaries favor academic unionism more than do their richer colleagues. On the other hand, it is also true, thanks to the extraordinary gains of the sixties, that the average income of academics drew abreast of that of most salaried professionals, who, moreover, lack the former's opportunity to piece together incomes from several sources on regular company time. It is worth noting, too, that previous dips on the academic income rollercoaster did not inspire a union movement or an effort to pass laws that would abet that movement, that the current union drive gained impetus before the current inflation struck, and that the dollar benefits gained through collective bargaining have thus far been rather moderate—in this respect, at least, in union there appears to be only modest strength.[32] None of this is meant to sound Panglossian. No one ever admits to having a margin of bearable deprivation; professors cannot reasonably be told they are doing well because, despite recent losses, they have done much worse. Moreover, average income figures, by collapsing the range of given circumstances, hide the pathos of the low extreme. Despite talk of professorial affluence, there are still many academics in America, in the lower ranks and in the low-rate places, who continue the age-old practice of floating their institutions on their impoverishment. But the point is that faculty exploitation *is* an age-old practice and thus cannot fully account for the current academic mood.

Can that mood be better explained by the market forecasters? Ever since Alan

Cartter brought the bad news from the Census Bureau to the schoolhouse, warning that the wartime baby boom was over and that teacher redundancies would occur as smaller cohorts moved through successive grades, academics have been led to believe that they are living under a kind of birth sentence.[33] The demographic determinists hold out no hope of reprieve—a paucity of eighteen-year-olds seeking a college education has to create, they say, a plethora of twenty-eight-year-olds eager and qualified to give it, and perhaps a surplus of fifty-five-year-olds forced by competitive pressures to retire young. Recently, however, the Carnegie Commission on Higher Education has gone to some lengths to dispute the notion that a host of contraceptive decisions made in a multitude of private bedrooms can have effects as immutable as an act of God. It has pointed out that the demand for academic services is a function not of the rate of fertility but of the rate of participation, which can be raised by reducing attrition, lowering the barriers to college-going, and enticing men and women in the older age ranges into places heretofore reserved for the high school's latest crop.[34]

But the Carnegie Commission has not alleged that demand and supply are in perfect balance, or that the future, however mutable, will be so favorable as the past. Between 1870 and 1970, college enrollments in America had doubled every 14 years or so. No realistic projection, even on optimistic premises, anticipates anything like that rate of growth in years to come. (The most recent Carnegie projection foresees a 20 percent increase between 1970 and 1980, followed by a 9 percent decrease in the next decade.) One might conclude that, like other once booming enterprises suddenly required to accept retrenchment, this profession lost its bearings when it realized it could no longer grow. Clearly, without an abundance of jobs and prizes to make the young content and the old feel safe, this profession does not handle its inner tensions well. Facing diminishing opportunities for employment, neither the would-be member who entered graduate training when all signs where fair and now finds his testimonial ineffective nor the journeyman member who is told that the tenure lines are frozen after he has played the waiting game is likely to remain enthusiastic about how the going system works. But all the profession's disorientation cannot be laid to market factors. After all, the per-capita demand for academic services is still vastly greater in this country than it is anywhere else in the world. With over 9 million student buyers, these sellers can hardly think they have lost their charms.[35] Less internal mobility may well heighten the demand for job security to which the union organizer responds, but the causes of that reduced mobility—the slower creation of new jobs owing to the stabilizing of enrollments, the slower rates of retirement produced by the youthfulness of current jobholders—cannot easily be bargained out of force. In any case, shifts in professional morale are not wholly determined by shifts in employment opportunities. If they were, the thirties would have witnessed the changes we are seeing now.

One weakness in the "hard times" theory is that it fails to account for what did not happen when times were worse or for behaviors that are more willed than pushed. Another—and more serious—weakness is that it implies that professionalism flourishes when a profession waxes, languishes when its growth abates. On this assumption, it focuses analytic attention on the difficulties of the seventies and ignores or exonerates what had gone before. There are, however, grounds for believing that the most significant deprofessionalizing forces were set loose in the expansionary sixties—the period that has come to glow in memory the further it recedes in time. It would repay us to re-examine, with something more penetrating than nostalgia, the contributions of that happy, unhappy age.

In 1930 there were 82,000 part-time and full-time faculty members in the United States. In 1940 the number was 114,000 (an increase of 40 percent despite the long economic slowdown); in 1950 it was 190,000 (an increase of 66 percent, partly in response to the subsidized enrollment of World War II veterans); in 1960, that number had risen by another 45 percent. But the next decade overthrew all past growth records. By 1970 the number of practicing academics reached a total of 574,000, more than twice the number counted ten years before. If any other established profession ever grew so fast in so many consecutive leaps, the instance does not come readily to mind.

As a profession grows, so shall it reap. During the sixties, growth—rapid, unrelenting growth—worked to inundate faculties with recruits too suddenly arrived and numerous to be smoothly inducted into prevailing values: the price of professional expansion was impairment of professional acculturation. During the sixties, growth—incessant unit growth—served to create campuses too large to be communities, operations too costly to be left alone: the price of professional expansion was a loss of a sense of collegiality and the installation of new outside controls. Growth as such is not always inimical to professionalism.[36] The academic calling in this country first formed its strong commitment to research, developed stores of socially useful expertise, divorced itself from the clerical vocation—in short, emerged as a modern profession—during a period of rapid growth, roughly the period between 1885 and 1915. But the pattern of growth in that period differed from the recent pattern in important ways. For one thing, in numerical terms it was far less prodigal (the 40,000 professors of 1915 may have lacked the distinction conferred by rarity, but they could still feel they composed a tiny band). For another thing, it resulted in a smaller concentration of persons (in 1915, the University of Chicago, with fewer than 5,000 persons, was the largest academic institution in the country; today, 300 institutions would outrank it, and some are as many as seven or eight times as large).

Significantly, professional expansion in the earlier period was most rapid in the upper reaches of the system, in the major research-centered universities whose magnetic presence enlarged occupational ambitions and redefined institutional success. Professional expansion in the sixties took place mostly in the middle and lower tiers of the system—in universities created overnight to catch anticipated student increase, in teachers' colleges suddenly upraised in status and vested with a liberal arts curriculum, and in the community colleges. A professional praxis needs time to mature in a congenial setting; it cannot be created by legislative fiat or brought into being by a title change. Finally, it should be noted that the major universities in the earlier period, in order to compensate for the felt shortage of seasoned scholars, set aside the bulk of new positions for instructors and assistant professors. During the sixties, the fastest growing academic groups were not of the subaltern type but marginal—teachers who still were graduate students, researchers who did not teach. In but not of the university, eligible to perform its tasks but not to receive its grants of tenure citizenship, these groups did not deepen professional roots by growing. One need not argue that steady states are best, or support the doctrine that "more is always less," in order to perceive that, under certain growth conditions, a profession may fatten in a sickly way.

This is not to say that a vista of zero growth will bring this profession back to health. Growth accompanied by the expectation of more growth may provide a partial corrective to its own excesses. As long as the dominant mood is confident, those who lag behind in what David Riesman has called the academic procession may gain much solace from the thought that in time they will soon catch up. (This, no doubt, is particularly a young professor's and a new administrator's solace.) In this case, the most highly professionalized faculties and institutions will tend to become models for the rest. Contrarily, stabilization and contraction, following rapid growth, may destroy the normative dominance of the top. Those closer to the bottom then cease to hope that they can emulate the farthest Jones, and are likely to feel that if they cannot, they need not. Thus, the refusal (until now) of the faculty of the University of Michigan even to consider unionism has served as a fairly potent model for the faculty of Michigan State University, which did consider unionism but rejected it, a weaker model for Wayne State University, which voted to be represented by the AAUP, and hardly any model at all for the four-year colleges in that system that went to the NEA or the AFT.

In 1915, only two states attempted to coordinate the activities of their tax-supported institutions of higher learning. By the end of the 1960s, few states let their state university, land-grant institutions, undergraduate colleges, special-purpose colleges, and junior colleges go their separate ways. During the decade of the sixties the trend was toward not only coordination, but toward higher degrees of integration. In 1960 only six states had provided for superordinate bodies to organize and plan for statewide systems; a decade later twenty-seven states empowered off-campus boards to make decisions on such diverse matters as capital investments and tuition levels, architectural design and new site location, and left the local boards with the paler power of determining how those decisions should be carried out.[37]

This siphoning of decisional power from authorities located on the campus to those residing in the world beyond was part of a larger process that became increasingly apparent in the sixties. For want of a better name, one might call it the process of "delocalization." It took a number of diverse forms. There was a time, not long ago, when most private academic institutions regarded the question of their own physical expansion as one that would be internally decided on the basis of the cost per lot, the funds at hand, and their own projected space requirements. Today few institutions feel free to exert their will on such a matter. Once located in sparsely settled areas, now girdled by central cities or towns that have burst their seams, they find that everything they do in the way of land use becomes intermeshed with the complexities of race relations, tenant movements, community power struggles, and the politics of City Hall. Again, there was a time not long ago, when public and private college authorities exercised an almost extraterritorial power over students resident in their domains. The dominant holding in the courts was that attendance at a public college was a privilege that could legally be withdrawn with a minimum of formal ceremony and that attendance at a private college was as conditional as admission to a private club. Today the judgment of disciplining deans is subject to reversal in the courts under the due process clause of the Fourteenth Amendment, the judgment of admissions officers is subordinated to legislative judgments concerning civil rights, and the judgment of every campus authority may be ignored by city constables when they enter the campus to keep the peace. And, lest we forget, there was a time—surprisingly not long ago—when the federal government was not a major benefactor of the university and thus not a major academic force. This age ended with the passage of the National Defense Education

Act of 1958, an odd but revealing title for a federal student assistance program, and with the post-Sputnik torrent of funds for science. Whatever else might be said about it, there is no doubt that federal giving was also draining, that the major universities (the chief recipients) lost considerable initiative to this Croesus who used the lure of wealth or the dread of cutoffs to gain consent to its varied projects, some of them unseemly or unwise.

The localized college was not an Eden, perfect until it was defiled. That institution could be predatory and authoritarian; the broader hegemonies that have replaced it are often more sensitive to civil liberties and civil rights. Still, without subscribing to Jeffersonian myths or Biblical allegories, one can say that a delocalized college is significantly less hospitable to the profession. The shift of effective power from within to without the institution makes many academic persons feel they are dominated by external forces that professional manners are too tame to influence, and professional committees too weak to reach. They find themselves not in sodalities, but in systems made coherent by resource-allocation models and knowledgeable by quantitative data processing. They answer not so much to administrators as to scientific managers, who continue the *Kulturkampf* against academic traditions launched but never consummated by the Taylorites fifty years ago. Finally, the vertical and horizontal combinations of plants, the unequal allocations of power between the central office and the local branch, the use of work measures reminiscent of the giant firm, give the public systems of higher education a look that grows increasingly indistinguishable from that of a corporate conglomerate. If we are in the educational versions of General Motors and U.S. Steel, many faculty members are saying, let us be responsive to that reality. Let us cease to name and anoint ourselves a guild and begin to deal effectively with the problems we confront as workers. Let us discard the disadvantages workers face under private bargaining and organize to match the strength of distant management. Let us preach fewer sermons to ourselves about cooperativeness and propriety which, as the labor movement shows us, is only a way of being unilaterally disarmed.

It came to pass in the 1960s that the very word "profession" acquired a discreditable connotation. The checklist of defining attributes that had satisfied Abraham Flexner—a profession is an intellectual rather than routinized enterprise, with a rationally organized store of knowledge that is passed on to novitiates through lengthy training and put to socially beneficial uses—came to appear to a rising generation of social critics as nothing more than an exercise in apologetics. Desiring to expose the puffery to which modern occupational groups are given, eager not to be taken in by the self-serving rhetoric of the trial lawyers' association and the AMA, a number of sociologists, led by Everett C. Hughes, undertook to frame a new definition. Profession, they declared, is nothing but an accolade which the members of an occupation seek to have bestowed upon them by the public in order to enhance their own role dominance, honorific standing, and market punch. Once, so they said, lineage established effective claims to deference, power, and good life chances; then wealth supplanted lineage; now, something has supplanted wealth—an ingeniously wrought and plausibly presented occupational mystique. Robert W. Habenstein summed up their argument as follows:

> In this way of thinking, "profession" is basically an ideology, a set of rationalizations about the worth and necessity of certain areas of work which, when internalized, gives the practitioners a moral justification for privilege, if not license, and which, when recognized by

> society, legitimates their penetration into the personal or social relations of people who need or believe they need help.[38]

Or, yet more succinctly, a profession is just a con game which only some can play and win.

This definition leaves unclear why society should consent to join the game. Is there no deep and imperative social reason, as opposed to the partial and manipulative one here put forward, for the existence of professions? One positive and by now well-worn reply comes from the Parsonian handbook of telic principles: professions are needed to implement the rationalistic values of a complex industrial society. But this can be taken as no great praise, for it appears to saddle the phenomenon with the onus as well as the glory of modernity. A less double-edged answer may be found in the perception that as the amount of knowledge increases, so too does the relative amount of ignorance, for each can know only a decreasing fraction of the whole; that as the power of knowledge grows, so does the power of the knower to do ill or good with the particle he masters; that as knowledge once held by kin and neighbor passes into the hands of strangers, the customary means of assuring its benign uses—parental love, familial care, communal sanctions—tend increasingly not to work; that then more deliberate means must be adopted (professions being among the chief ones) to protect those who are gnostically deprived. In this conception, professions serve a society that is made up not necessarily of masses, but inescapably of laities. How well they carry out that function depends, in large part, on how well they school their novices in the arts of disciplined generosity, and on this there may be considerable variation. But all professional indoctrination contains a core of precepts whose aim is to make the potent knower kind. That such precepts are not so strictly obeyed as the *consilia evangelica* of the religious order—that kindness in secular form tends to be available only between the hours of 9 and 5, and not on Sunday or in the month of August, and usually for a price—is recognized by society too; that is why it accords no profession more than a conditional autonomy, sets up licensing agencies, punishes fiduciary lapses, and reserves its special maledictions for professionals who grossly break their vows. The means called professions are imperfect, but they are not for that reason any less essential.

The moral devaluation of profession in the sixties was not confined to the province of theoretical sociology; it was spread in all manner of conveyances, including numerous insurgent caucuses within the professions themselves. But nothing brought it more dramatically to the attention of the general run of academics than a major feature of that decade—the wave of student unrest. At this moment, to attribute a current malaise to student restiveness may seem like charging a felony to a ghost. But we would be burying the past most prematurely if we were to assume that this part of it is dead and gone. True, the violence and revolutionism have departed, but these were but extreme symptoms of a deeper tendency—the tendency of the young (and the not so young) to withdraw their deposits of more consent from the accounts of established leaders and institutions. Whether these reserves have subsequently been replenished—whether the current tranquillity on the campus represents a real mending of broken loyalties or merely a sullen peace, brought on by scarcer jobs and rescinded draft calls—may best be left to the hard-pressed analyst of student attitudes to determine. But it does seem clear that the profession has not yet recovered from the shock of the early runs. Once told—by those it had designated as its beneficiaries—that its stock in trade is not knowledge but ideology, its latent function not enlightenment but obfuscation, its ultimate goal not perfection but power, it lost what can never easily be recaptured—a pristine confidence in its own benevolence. Compared with this, the student breaking of rules was less important. A widespread challenge to authority costs the professional spirit more than a widespread attack on regulations. A profession may be comfortable when it is obeyed, but it can believe in itself only when it is believed.

What lies in store? One may nourish the hope that from residual and abiding strengths—the human desire to ennoble work, the lingering sense that learnedness is akin to blessedness, the quest for inimitable achievement that goes with strong disciplinary commitments—the academic profession will gather what it needs to preserve itself and remain intact. But this may be a sentimental hope. It may be more realistic to assume that out of the sortings now taking place will emerge two very different entities: a relatively small profession centered in the nonunionized, moderately delocalized, mostly private, research-oriented universities and high-grade colleges, and a much larger work force composed of persons called faculty members out of habit but who are in no significant way differentiated from other trained attendants in the teaching enterprise and barely distinguishable from the multitudes engaged in bureaucratized white-collar work—a lumpen professoriate, so to speak. And one may conjure up a future that lacks even this saving remnant: a time when the profession as we know it comes to be regarded by almost everyone as an anomaly, then as a constricting anachronism, and finally as a lifeless relic of a lost and dimly remembered world.

REFERENCES

1. This is an expanded version of a paper delivered at a conference held at the University of Massachusetts in May, 1974, to mark the retirement of Professor Hans Speier from that institution.

2. Lilian Guralnick, *Mortality by Occupational Label and Cause of Death* (1963), U.S. Bureau of Labor Statistics, "Injury Rates by Industry" in *Statistical Abstract of the United States* (U.S. Department of Commerce, Washington, D.C.: U.S. Government Printing Office, 1973), p. 247.

3. Pearl Kibre, *Scholarly Privilege in the Middle Ages* (1962). This tradition of indulgence was reinforced in this country by the planting of colleges in bucolic settings and the housing of faculty near campus greens. City growth and new urban foundations have tended to fray this tradition, but the recent raising of academic incomes—plus the growing willingness of academic institutions to lend their faculty members mortgage money on easy terms—has allowed many professors working in metropolises to purchase verdure and oxygenation further out.

4. Mark H. Ingraham, *The Outer Fringe* (Madison: University of Wisconsin Press, 1965); William C. Greenough and Francis P. King, *Benefit Plans in American Colleges* (New York: Columbia University Press, 1969).

5. Cf. David G. Brown, *The Mobile Professors* (1967), pp. 14–16.

6. Cf. Studs Turkel, *Working* (1974), *passim*.

7. Ruth E. Eckert and John E. Stecklein, *Job Motivations and Satisfactions of College Teachers* (1961); P. Shabecoff, "Job Discontent," *New York Times*, Dec. 22, 1972; Talcott Parsons and Gerald M. Platt, *The American University* (1973). The 1969 Carnegie data, which give strong support to the notion that professors are unusually contented workers, are presented in Everett Carll Ladd and Seymour Martin Lipset, *Professors, Unions and American Higher Education* (Berkeley: Carnegie Commission on Higher Education, 1973), p. 34. Faculty members in lower-tier institutions are as satisfied with their choice of careers as colleagues in the upper reaches.

8. American historians studying social mobility rely heavily on the occupational scheme put forward by

Alba M. Edwards, "A Social Economic Grouping of the Gainfull Workers in the United States," *Journal of the American Statistical Association*, vol. 27 (1933), pp. 377–387.

9. Robert W. Hodge, Paul M. Siegel, and Peter H. Rossi, "Occupational Prestige in the United States, 1925–1963," *American Journal of Sociology*, vol. 70 (Nov. 1964), pp. 286–302.

10. Peter M. Blau and Otis Dudley Duncan, *The American Occupational Structure* (New York: Wiley, 1947), chapter 4.

11. *New York Times*, Dec. 2, 1973.

12. Earl F. Cheit, *The New Depression in Higher Education* (New York: McGraw-Hill, 1971), pp. 35–43.

13. William W. Jellema, *From Red to Black* (San Francisco: Jossey-Bass, 1973); Earl F. Cheit, *The New Depression in Higher Education—Two Years Later* (Berkeley: Carnegie Foundation for the Advancement of Teaching, 1973); American Association of State Colleges and Universities, "Report for 1972–1974," summarized in *Chronicle of Higher Education*, Sept. 24, 1973.

14. Cheit, *The New Depression in Higher Education*, p. 9; National Science Foundation, *Federal Support to Universities, Colleges and Selected Nonprofit Institutions, Fiscal Year 1971* (Washington, D.C.: Government Printing Office, 1972), p. 46; U.S. Office of Education, *Higher Education Finances: Selected Trend and Summary Data* (Washington D.C.: U.S. Government Printing Office, 1968), p. 3.

15. William G. Bowen, *The Economics of Major Private Universities* (Berkeley: Carnegie Commission on Higher Education, 1968).

16. This section draws heavily on Carol Van Alstyne, "An Economist Looks at Low Tuition," a paper prepared for the American Council on Education, February 14, 1974.

17. Whether such actions are inescapable sequiturs to budget cuts remains a question. Carbondale's other campus, under another president, suffered a budget cut 50 percent as large, but did not remove any faculty members. At the main campus, plans are going forward to replace the football stands and build a parking garage, but funds to cover these activities are located in another part of the budget.

18. The codes of the AAUP, the tenure watchdog for the profession, are not well suited to avert this kind of action. They allow for termination of a tenured appointment, without the ordinary protections of due process, under two exceptional circumstances: when an academic program is discontinued (and its faculty cannot be placed elsewhere in the institution) and when the institution experiences "financial exigency," which presumably means when it is too impoverished to retain all of its existing staff. But the AAUP codes do not define the level of indigence that must be reached before the exigency exception can be acted on: rather, the means test that must be passed is to be locally defined. All that the AAUP demands, by way of uniform standards, is that the action be demonstrably "bona fide," that the faculty be "involved" in the decision and have the "primary responsibility" of determining where the cuts shall be made, and that the released member's place not be filled by a replacement for a period of two years. But "good faith" is difficult to establish, the executions can take place without any accusatory processes, and the replacement clause can be made a nullity by the juggling and coalescing of positions to the point where the vacated spot disappears. See AAUP *Redbook*, 1973, p. 43.

19. In 1930, the national student-faculty ratio stood at 12.8 to 1; in 1950, it stood at 9.3 and has remained at that level ever since. Taken by itself, this statistic is ambiguous: fewer students per teacher may mean more teaching time per student, and the trend may therefore be an indication, not of diminishing efficiency, but of improving—or at least intensifying—teaching effort. It would appear, however, that the change was brought about not by reducing the size of classes, but by reducing the number of them per teacher; in other words, that the work of the teacher became less extensive without becoming more intensive. So Fritz Machlup, in his ground-breaking study of the "knowledge industry," concludes, citing as significant causes the growth of graduate instruction and the shift of faculty attention from academic teaching to research. Fritz Machlup, *The Production and Distribution of Knowledge in the United States* (Princeton: Princeton University Press, 1962).

20. See, for a sample of contemporary arguments against tenure, "Bloomfield College" (Appendix, President's Report to the Faculty") in AAUP *Bulletin*, vol. 60 (March, 1974), pp. 64–66; against peer

review, "Threat to Peer Review at NIMH," *Chronicle of Higher Education*, June 4, 1973 and Sept. 10, 1973; in favor of affirmative action and sounding the double-note, Gertrude Ezovsky, "Fight Over University Women," *New York Review*, vol. 21 (May 13, 1974), pp. 32–39.

21. There has grown up a teeming library on current academic unionism. The most informative single work is E. D. Duryea and Robert S. Fisk, *Faculty Unions and Collective Bargaining* (San Francisco: Jossey-Bass, 1973).

22. Ladd and Lipset, *Professors, Unions, and American Higher Education*, chapter 2.

23. It is too soon to say whether the AAUP will be able to maintain its role as a neutral intervener in academic disputes and at the same time actively compete to become the bargaining agent of the nation's faculties. Much will depend on the character of its leadership and membership, which is likely to be broadened and democratized to conform to the character of local bargaining units, and on the willingness of administrators to cooperate with the Association in its professional fact-finding functions, even while they spar with its local chapters or recognize their organizational rivals for collective bargaining.

24. Judging from recent agency decisions, the trend is toward including instructional professionals, student counselors, and librarians in one bargaining unit (which attenuates the faculty's influence) and toward giving law professors, and by implication other faculties of professional schools, the right to constitute a separate unit (which may lead toward faculty fragmentation).

25. The threat posed to professionalism by the principle of exclusivity is twofold: administration may make itself inaccessible to internal faculty bodies that are not recognized as exclusive bargaining agents, to individuals prosecuting complaints on their own, or to local chapters of professional associations with whom negotiation is ostensibly forbidden by the contract; and administrations may refuse to answer interrogatories of professional associations investigating charges of unprofessional practice, alleging that cooperation would infringe the contract or state laws covering collective bargaining.

26. For a less pessimistic view on the future of "shared authority," see Matthew W. Finken, "Collective Bargaining and University Government," AAUP *Bulletin*, vol. 57 (Summer, 1971), pp. 149–162.

27. For recent discussions of student-faculty tensions arising out of collective bargaining, see *Chronicle of Higher Education*, April 30, 1973; Sept. 10, 1973; Feb. 25, 1974.

28. Another abandonment of traditional autonomies occurs when contracts provide for the submission of internal disputes to outside arbitrators. The danger exists that, in taking cognizance of grievances concerning appointment, reappointment, tenure, and promotion, the arbitrator may substitute his judgment for that of academic authority, and that in interpreting such standard phrases as "residual managerial rights" or "the sovereignty of the public agency," the arbitrator may develop a case law inimical to academic freedom.

29. David L. Graham and Donal E. Walters, "Bargaining Process," in Duryea and Fisk, *Faculty Unions and Collective Bargaining*, pp. 44–65.

30. Howard R. Bowen, "Faculty Salaries: Past and Future," *Educational Record*, vol. 49 (Winter, 1968), pp. 9–21.

31. U.S. Bureau of the Census, *U.S. Census of Population, 1970, Detailed Characteristics*, final report.

32. Matching 88 unionized with 88 nonunionized institutions according to size, number of full-time faculty members, geographical locations, level of faculty compensation, and form of control, and leaving out the CUNY system, Robert Birnbaum found that unionized academics got an average of $777 more per year than nonunionized academics between 1968–69 and 1972–73. In percentage terms, the average compensation of the nonunionized went up 25 percent in that period, of the unionized, 35 percent. *Chronicle of Higher Education*, April 15, 1973.

33. Alan M. Cartter, "A New Look at the Supply of College Teachers," *Educational Record*, vol. 46 (Summer, 1965), pp. 159–166.

34. Carnegie Commission on Higher Education, *Priorities for Action: Final Report* (New York: McGraw-Hill, 1973).

35. The cutback of federal graduate fellowships and traineeships—from 51,000 in 1967–68 to 6,600 in 1973–74—should have had the effect of reducing graduate school enrollments and the number of Ph.D. holders turned out annually, a reduction that would have sent shock waves through the upper system but would have rectified supply-demand imbalances further down. It would appear, however, that total graduate enrollments increased substantially in 1973–74, mostly in public universities, and that the production of Ph.D.s has risen slightly too. See Survey by Educational Testing Service for the Council of Graduate Schools in the United States and the Graduate Record Examinations Board, reported in *Chronicle of Higher Education*, Dec. 24, 1973.

36. Cf. Walter P. Metzger, "Expansion and Profession," paper delivered at the Symposium on the Role of Education in American History, Chatham, Massachusetts, June 1964.

37. For a more complete statement on delocalization, see Walter P. Metzger, "Delocalized Academic Institutions," in *Dimensions of Academic Freedom*, ed. John McCord (Urbana: University of Illinois Press, 1969).

38. "Critique of 'Profession' as a Sociological Category," *Sociological Quarterly*, vol. 4 (Autumn, 1963), p. 197.

ROBERT WOOD

Academe Sings the Blues

TEN YEARS OF unprecedented change, controversy, and commentary have made a straightforward appraisal of American universities and colleges problematic. Yet even an impressionistic survey must yield at least two conclusions. First, the academic community's temptation to self-destruction is considerable. Second, we seem inclined to end our enterprise not with a bang, but a whimper—a long, cold slide into ineffectiveness.

By concentrating on these two issues—a failure of nerve about the value of our calling, and extreme caution in public policy—I am oversimplifying our condition and neglecting major genuine achievements like reasonable parity in faculty compensation compared to other professions, and major physical modernization of laboratories and classrooms. Yet the two-part emphasis is hard to escape. Sifting through the principal commentaries, from the Newman Report to the Carnegie Commission's five-foot shelf, and looking at recent federal and state legislation, one comes away with the overwhelming impression that a great crisis of confidence afflicts us, and we compound that crisis by an obsequiousness to the critics, a readiness to confess guilt, and a disinclination to plan for the future.

I here undertake to identify some of the principal influences at work in our present "time of troubles" and to argue against the counsel of reaction and retreat now being advanced. My theme is simple: more than ever what higher education needs now is a sense of adventure and a commitment to change, institutional manifestations, if you will, of the hallmarks of the true intellectual—driven by curiosity, excited by discovery, and convinced that the fruits of individual inquiry will make things different.

First Victims of the Club of Rome

Whatever historians a generation from now will make of the sixties, the sense today, in the fashionable rhetoric of failure, is that "we blew it." Briefly put, the sixties encompassed three national administrations which despite three national assassinations still achieved unparalleled prosperity, dramatic progress in civil rights, and major domestic legislative initiatives. But overshadowing these achievements were the tragic compulsion to win in Vietnam, the corresponding underinvestment in restoring cities and helping the poor, and the failure to recognize truly and in time the limits of growth. As a nation throughout the sixties, we were bedazzled by growth and by the rhetoric of promise that presupposed resources sufficient to meet any established goal.

All American institutions share in the indictment handed down by the Club of Rome, Dennis Meadows and associates, the Brookings budgeteers, and the early environmentalists. Their essential charge is our generation's thoughtless exploitation of resources, our sanguine faith in the capability of replenishment, our extraordinary absence of self-restraint that mortgaged futures for present consumptions, our failure to look even a few years ahead.

And the American university and college, stockpiling the prestige gained in the invention of new weaponry during World War II, heady with the new resources that the "man on the moon" impulse had unlocked in the fifties, were in the forefront of this failure. For ten years, the very institutions which purportedly exist as the nation's skeptical and reasoning critic embraced uncritically the popular cult of growth via redundant expansion. Undergraduate and graduate (degree-credit) enrollment grew from 3.6 million in 1960 to 7.9 million in 1970. Government-sponsored research went up from $829 to $2270 million, and state support for public higher education rose from $1313 to $5850 million.

Yet with all this massive growth, the basic pattern of academic behavior did not seem to change much. To be sure, the research propensities of the faculty, especially in science and engineering, intensified, as did the political activity of the students, spurred by the pressures of institutional anonymity, the draft, and the war. Campus after campus changed physically as building programs continued to grow. But no countervailing concept to Clark Kerr's proud declaration of the almost inexhaustible capabilities of the multiuniversity appeared; more important, few major adjustments were made to handle the changes in size of studentbodies, faculties, plants, and resources.

As a consequence, Academe came to evince three vulnerabilities: an inability to plan or organize its programs on a college or university basis; a closely related incapacity to direct the course of physical development; and an unwillingness to respond to outside intrusions as the political atmosphere darkened. Except for the sporadic development of "centers," for international, urban, and space activities, the academic department remained the principal unit for academic organization. In the context of larger size and more complex issues, this proved a basic weakness. What had worked well in more confined circumstances—peer-group action by consensus, which was therefore dependent on personal knowledge and professional discipline—now broke down.

A succession of hapless university and college presidents, deans, and chairmen watched almost helplessly as the star professor and his entourage of assistant professors and graduate students, safely supported by NSF or NIH, announced grandly, "Have grant, will travel." In a seller's market, thus began first the academic auction in which institutions bid for distinguished scholars and research teams; then the furtive forays of colleges into entire clusters of specialists who were discontented with their present level of support; finally, the sheer piracy of a colleague accompanied by his entire laboratory.

The rise of the research entrepreneur not only disrupted traditions of continuity and college allegiance; it distorted budgets, plans, and building programs. Washington grants skewed investments, limited the capabilities of trustees and presidents to set priorities, set loose an architectural boom "because the appropriation is there." Space centers appeared in new buildings, while the intellectual values of the undertaking were still under debate. Laboratories were as easy to come by as stadiums. Only department chairmen could stem the impulse to expansion, but in the new large and still expanding departments with unfamiliar colleagues and new subfields, to ask a chairman to mount a solitary resistance to "soft money" was akin to expecting a modern platoon leader to initiate an infantry attack without planes or tanks. The overall strategy and command were absent.

Divided and parochial in internal management, Academe was not surprisingly vulnerable to outside attack. When the protestors came, appealing to deepening frustration and righteous indignation, universities and colleges were simply not prepared to react. The issue is not the validity of the protest but the ways and means of the response. Organized by departments and faculties and functioning by debate and discourse, Academe proved in instance after instance incapable of arriving at a timely course of action, of distinguishing between calculated intrigue and innocent anger. Perhaps not since the constitutional assemblies of the French Revolution have we seen institutions so incapable of taking wise action in time of turmoil.

So, in terms of missed opportunities, reasoned and well-paced development, orderly provision for handling outside interventions, the institutions of higher education—more than the government or the corporation or even the church—"blew it" in the sixties. To blame this on the agencies or the research contractors is too easy; we accepted, if we did not welcome, the definition of mission from outside. Professional greed as well as intellectual curiosity—the psychic income of the large project, the expanding staff, the new office, the famous report—helped to drive the engine of the academic enterprise. No wonder that by 1970, swollen in numbers, rich in "soft" resources, divided and subdivided by objective and purpose, limited in planning and operational capability, gravely weakened in its claims to objectivity, Academe seemed to the outside world to be coming apart.

The Hostile Environment

The outside world did not help. The Democratic Convention of 1968 shattered the bridge which intellectuals had traditionally crossed to participate in the outside world. The Nixon Administration moved from an ominous new nomenclature—"postsecondary education"—to outright retreat on the issue of school desegregation and to the wholesale impoundments of the second term, which left little doubt that the nation need no longer support higher education. The President's Science Advisory Committee disappeared outright; the National Institutes of Health and the National Science Foundation were no longer significantly growing sources of aid.

More disturbing yet was the emergence of the first intellectually respectable school of conservative thought since the South's antebellum George Fitzhugh. Within a very short period, a group of social scientists was insisting upon the major role in individual monetary and intellectual achievement of heredity, of genes, and upon a corollary effort, using IQ tests to define racial differences. Beginning, perhaps innocently, with James Coleman, encompassing Arthur Jensen, Richard Herrnstein, Christopher Jencks, and others, the correlation of genes with individual potential, via intelligence tests, is absolutely devastating in philosophical impact to the American commitment to equality of opportunity through education. To be sure the Coleman Report was concerned with differential scholastic achievements between whites and blacks in public *elementary* and *secondary* schools. The Jensen article elaborated the proposition that inherited intelligence and race were statistically linked, but conceded that "intelligence, like electricity, is easier to measure than to define." Herrnstein continued the emphasis on measurement of intelligence and its relation to earnings and prestige and also continued to exclude the possible impact differences in curricula and character of instruction. Christopher Jencks did tackle the issue of school reform, concluding that even major changes could not affect the extent of cognitive inequality, and positing that "insofar as schooling is an end in itself, then, Benthamite principles imply that those who want a lot should get a lot, and those who want very little should get very little."

Granted the careful limitation the authors have placed on their tentative conclusions; accept the concentration of analysis on primary and secondary educational experience; whatever the shortfalls in the statistical reliability or unreliability of the tests employed—the net effect of the research calls into question the wisdom of the public's investment in institutions committed to highly cognitive processes of learning. If scholars are born and not made, if genes (or blind luck) and not environment or schooling determine individual achievement, as Jencks and the others seem to argue, it follows that an undertaking which seeks to transfer knowledge to all comers is futile.

The succession of these apparently "empirical" reports on intelligence and educability and their widespread public dissemination, especially in the "thoughtful" magazines, set loose a strong shock wave of disillusionment among taste-setters and policy-makers. Especially in the troubled years of the late 1960s, they nagged at us and seemed to question the entire policy of rapid expansion of access to higher education. And as if this educational critique were not enough, it was simultaneously broadened into a wistful exposition of the inevitability of the seamy side of our general urban culture by the gloomy writings of Patrick Moynihan and Edward Banfield. For it was the special function of Moynihan's *Maximum Feasible Misunderstanding* and Banfield's *Unheavenly City* to turn theses of biological heritage into an inevitable acceptance of a class-structured society and into a justification of governmental inaction.

I have written earlier on the impact of my two colleagues' thinking on urban policy, how accepting Moynihan's and Banfield's theses that the lower class is the root of all evil and immorality leads one to question common action of all kinds. If the thesis of the intractability of the underclass vitiates support of vital domestic governmental programs, it eats at the very vitals of the American public academic enterprise. Accepting its premise literally would mean that only elite higher education is justified; that the new urban university and the community college that broadened access were mistaken undertakings. One is led back to a formal acceptance of class structure that goes squarely against the grain of the American higher education enterprise as it is currently practiced.

While these elitist doctrines by no means enjoy universal acceptance, the talented writings of Jencks, Moynihan, and Banfield have been influential in shaping public perception of Academe. Sensitive to the mistakes and follies of mankind, their commentaries not only provide an excuse for the present national political administration's withdrawl of support. They also at least indirectly condition the public to believe that we have overinvested in education; that we have been foolish in continuing the American pursuit of greater access and more opportunity; that we have been naïve in our commitment to one America, not two. They have encouraged the nagging self-doubt which is the third major factor at work in shaping our present predicament.

A Mood of Hesitancy

If the past five or six years have seen an aura of intellectual respectability attached to the idea of hereditary class, this plainly does not represent consensus in scholarship or even a "prevailing" view. But when joined with the politics of the time, the new conservatism has been articulate and powerful enough to produce a mood of hesitancy that pervades almost every attempt at serious analysis of higher education.

The most preeminent of these analyses are the reports of the Carnegie Commission on Higher Education. The Carnegie reports and sponsored research produced extremely valuable and comprehensive insights and assessments. In their crisp blue and white jackets, they are the respectable (and largely unread) Harvard Classics of the modern education library. Yet the net impact also seems to me repentant, defensive, and—despite their welcome emphasis on equality of opportunity and universal access—basically elitist. Perhaps this was inevitable. In the professional jargon of commission, task force, summer study watchers, Carnegie was an establishment-style "tree of wise owls," not a populist Noah's Ark with "two of everybody." The membership was knowledgeable, prudent, respectable. Eleven presidents or ex-presidents or heads of educational institutions, three professors, three businessmen (with long experience in university trusteeship), two lawyers with impeccable political credentials. No students, no representation from new disciplines, science, or technology; only one person from two-year colleges.

Admittedly, a certain personal sensitivity is evident because of an inch-high headline from the *Boston Globe* in November, 1972, when the Governor of Massachusetts was seeking to make unprecedented cuts in the budget recommendations for higher education: "Carnegie hones ax, Sargent swings it"; and there was a smaller headline which said, "Public higher education on block."

It was helpful to have Clark Kerr write a letter to the editor of the *Globe* a couple of weeks later, suggesting that the Commission's general recommendations were not necessarily applicable to a state which ranked 49th in per capita support of public higher education. And yet I could not help feeling concern as I read *Who Pays? Who Benefits? Who Should Pay?* It reaffirmed that the ax was still being honed, and that not only public higher education, but the futures of thousands of its students were still on the block.

Amid the general praise, I would point to three negative particulars in the Carnegie Commission work.

1. It presumes an inappropriate economic analogy that treats our undertaking as a factory and judges us by industrial standards of productivity and profits. In the end it is too beggardly in its call on the national resources, given its commitment to universal access and the needs of the disadvantaged.

The reports calculate the foregone wages of college students, but do not adequately emphasize future additions to income by virtue of going to college. The Commission implicitly compares our output to snowmobiles or breakfast cereals, but nowhere does it suggest the worth of educational expenditures compared to investments in health, welfare, agriculture, or commerce. Instead it accepts the base line of departure somewhere in the 1.5–2.5% range of the Gross National Product as somehow adequate when compared to other American institutions and professions, ignoring the fact that higher education and its faculties were playing catch-up football throughout the sixties.

I take special issue with the Commission's ill-chosen analogy of higher education and the railroad industry. "Will higher education, weighted down by other crises, follow the course of the railroad industry?" it asks in its final report. "Both have been great sources of national growth—the railroad industry in the second half of the 19th century, and higher education particularly in the middle of the 20th century. The railroad industry, in the face of new competitors arising out of new technologies and new public tastes and burdened by old mentalities, old practices, old and rigid operating rules, an older and aging labor force, and restrictive government controls, has declined greatly in dynamism and influence; has become a largely spent force in terms of additional national growth. The transportation segment of the economy kept on growing, but the railroad industry declined within it."

What new competitors and new public tastes does higher education face comparable to the airplane and the automobile? Proprietary schools and cable television? What burdens comparable to ancient roadbeds, rigid operating rules, an older and aging labor force? The assurance of tenure and standard faculty perquisites?

Again and again, throughout its report, the Commission seems to suggest that educating men and women to the highest levels of their ability is comparable to carrying pigs to market; that students are automobiles, and campuses, assembly lines.

2. I detect a persistent bias by the Commission toward private institutions and a restricted concept of mission, induced, I suspect, by its pessimistic estimate of our appropriate call on national resources.

The greatest danger the Commission foresees is universal participation in higher education under present budgetary restrictions. To continue to press for genuine equality of educational opportunity, to continue the trends of the 1960s toward almost universal participation, with slow growth in support in the Commission's view "will have the most serious of consequences. Facilities for students . . . will become less adequate. Research quality will decline, and library resources will deteriorate. More conflict will arise on campus." I would prefer a strong drive for more resources.

The Commission is careful about closing the door to equal opportunity by education. In its final report, it "finds" that increasing access to higher education does not necessarily cheapen the effort. "One of the interesting—and to some, surprising—discoveries of recent time has been that quality and quantity are not necessarily inconsistent with each other in the academic world and even that, in some situations, quantity can make it possible to add to quality."

But for all the laudable emphasis on access, the Commission remains, in the end, elitist. " 'Elite' institutions of all types—colleges and universities—should be protected and encouraged as a source of scholarship and leadership training at the highest levels. They should not be homogenized in the name of egalitarianism." The Commission quotes its member, Sir Eric Ashby: "All civilized countries . . . depend upon a thin clear stream of excellence. . . ."

Indeed, other noneducational institutions, in the Commission's view, now must bear the responsibility of equality of opportunity, agencies concerned with health care, jobs, and housing. ". . . The new imperative," the Commission says, "is a more modest wave of interest in quality, in intensive rather than an extensive growth. . . . We oppose . . . the now increasingly popular doctrine of equality of academic awards. . . ."

For higher education, the prescription is to preserve the "great research university" and to cherish the "small private college." But ". . . at public institutions, tuition will need to rise . . . substantially faster. . . ."

3. As others have also observed, the Commission's reports are short on educational content or prescriptions. No overarching shape and direction for educa-

tion, comparable to those that characterized the Harvard and Columbia studies after the Second World War, appear in the twenty-one reports. Indeed, the Foundation seems to have acknowledged this lack by asking Clark Kerr to undertake another set of explorations as to curricula. To be sure, one early report, *Less Time, More Option*, deals with new degrees, alternative routes to professions, and work-study alternatives, but its preoccupation is with cutting time and cost—a sort of academic work-motion approach to what is taught and learned. In the final report, the Commission offers a seed-catalogue of personal and societal reasons why a person should attend college: preparing for work, making better decisions, quality of life, life options, world view, cultural heritage, ecology—15 points in all.

To these three flaws in conception and analysis, one must add a note on a methodological shortcoming. The Commission's report in June, 1973, on university and college financing, *Who Pays?*, said that the "Actual 1973 percentage of educational costs of public institutions met by tuition was 17 percent." It recommended an increase to 33 percent by the mid-1980s. In March 1974, the Commission staff issued a "supplemental statement" to *Who Pays?* with "more recent" and "more precise" information. It turns out that the "more precise" information is that not 17 percent, but as much as 24–28 percent of undergraduate public education is paid by tuition, not far below the one-third level the Commission favored in 1973. Acknowledging the difficulties of definitions and data, it is still startling to find a statistical error of this magnitude in an undertaking bearing such respectable credentials. And, in the usual ways of such matters, the "correction" will never catch up with all the people whose perceptions were set by the original figures.

New Directions: (1) Rational Decision-Making

How do we recover from the triple assaults of a decade of excessive faith and exuberance, a political and ideological backlash of cynicism and hostility, and then a failure of nerve? The quick answer is that the academic community should learn to think again—particularly about how large nonprofit institutions are led, maintained, and kept healthy.

Perhaps the most critical lesson we can learn from the sixties is to recognize the sheer primitiveness in the planning and management capability that undertook to direct the exploding universities and colleges then, and tries now to adjust to new conditions of scarcity and priorities. Throughout the sixties, the process of budget-making and program development, techniques of admission, instruction, and inquiry, the methods employed for the recruitment, retention, and promotion of personnel, remained virtually unchanged. Even today, although institutional research staffs and professional budgeting have become acceptable, the nonfaculty professional component of higher education remains far too small.

In far too many institutions, the purposeful reexamination of tenure policy, of incentives, and of personnel planning continues with extraordinary reluctance, and only under the threat of dwindling resources or collective bargaining. Budgets are still too frequently premised on simplistic teacher-student ratios. Ancient formulas, like 15 to 1, purporting to optimize class size with hardly a single datum as supporting evidence, are clung to as articles of faith. Teaching loads are determined by custom and tradition and campus power; scientists are favored over humanists, senior members over junior. The duration and methods of instruction for graduate education, as Derek Bok has recently reminded us, remain largely unexamined. So do techniques of peer group evaluation in disciplines grown large, where photocopied fugitive papers announce findings months ahead of their reports in journals. We do not have commonly accepted indices of critical mass of our various academic disciplines, appropriate mixes of upper-level and lower-level instruction, the number of graduate students needed in a first-rate research institution.

The list of the missing series of needed information can extend considerably, but the principal point is that conscious forecasting and planning are prerequisites for regaining institutional vitality. As Peter Drucker points out, clear definition of purpose and mission is the analogue in nonprofit service institutions to markets in free enterprise and zero budgeting in government. Vague references to pluralism and diversity cannot be allowed to support plainly inferior colleges and universities. Self-appraisal has to be more sophisticated than to equate longevity with quality of performance. For Harvard and its colonial counterparts the correlation clearly holds, but the intervening centuries yield a widely diffused scatter diagram.

New Directions: (2) Extension to the New World

One of the prescriptions now popular in the counsels of retrenchment and retreat is fidelity to the classic image of Academe—a conscious withdrawal into the more abstract cognitive concerns in learning and teaching. Robert Nisbet recently argued the case eloquently and persuasively at the dedication of the new Harbor Campus of the University of Massachusetts at Boston—warning us, in the words of the colonial Danforth, not to embark on "an errand in the wilderness."

The counsel is well taken in the context of the overinvolvement of universities and colleges in the sixties, when too many committed the "fallacy of substitutability," the belief that a campus could fill in for a nonperforming industry or political process. But the counsel misleads if it is taken to mean that academic institutions, public or private, have long existed apart from the dominant forces of society.

The first American colleges trained preachers, and then doctors and lawyers—critical professions for the time. The land-grant universities of the 19th century did not appear by chance in a resource-rich, labor-poor frontier economy that needed wherever possible "to make the desert bloom" and to release men to the city. First Lincoln, then Wilson, then Franklin Roosevelt called the academic community to national service in our three largest wars. For the last two generations, from the Manhattan Project through poverty research, the academic community has responded enthusiastically to scholarly priorities established by the political process.

The need now is not how to determine the world's next priority by academic discourse, whether it be cities, space environment, or energy. The need is for university and college communities that know how to negotiate and bargain with the outside world. For too long a time, universities and colleges have responded with extraordinary empathy to a popular call at any occasional time. World wars, poverty, deprivation, hunger all elicited the enthusiasm of idealists and intellectuals. But the genuine questions were left hanging: How can we really help? What resources do we need, and for what period of time?

Until these questions are answered, the university's connection to the new world of reality must be slender but determined. The university cannot replace other institutions whose functions are different from its own; it cannot uplift the political process which has fallen; it cannot make up for lack of performance in private business. It can best intervene selectively in symbiotic concerns, where our skills and knowledge fit the problems involved.

Even giving the service function of the university its full due, we should not expect the majority or even a significant proportion of our professors and students to become engaged in the outside world. Important functions of the university proceed independent of current events. Many distinguished scholars have neither the inclination nor the need to see the fruits of their learning put to immediate purposes. Many students learn best in classroom, library carrel, and laboratory. In short, the university's role of outside assistance is one to be employed judiciously, with a clear sense of the appropriate moment and requisite skill. But properly defined and negotiated, the role is vital to modern higher education.

New Directions: (3) The Competent American

The last reformation that Academe should undertake is the definition of what it should teach America about itself and what it should learn. This is by far the most difficult undertaking: so far as our new management and planning requirements are concerned, we can borrow and adapt much from business and government. One hundred years of extension service, almost two generations of scientists in Washington helped build our bridges to the outside community. But what of our own callings? How do we avoid the dilemma of espousing the virtues of higher education without even defining them? What have we to teach a generation made more cosmopolitan by travel, more used to visual and oral communication than the written word, freer from psychological and social restraints than any before? If the old modes are no longer sufficient—classical or general—what comes in their place?

This is not the place or time to try to instruct the next Carnegie undertaking, but three foci for reorganizing teaching and scholarship suggest themselves: numbers, technology, and personal self.

1. The new numbers are concerned essentially with scale and ratio of change. How does the individual come to terms with a nation twice the size of that which his or her mother and father knew at the same age? How does one adapt to an environment in which the doubling time in the number of significant scientific discoveries has dropped from 50 to 20 years, and the doubling time in electrical power output has become one decade—with a 32-fold increase overall? Eight generations of medieval city dwellers could commit themselves to the completion of a single cathedral. Now the typical urban renewal project runs nine years from conception to completion. So with gross national products in the billions, metropolitan populations in the millions, the rate of human interactions by travel, telephone, message, personal contact steadily rising, the task of accurate calculations of consequences, first and second and third order, grows in complexity.

Does probability theory help more than personal intuition on the highway, in the gas station queue, in psyching out a job? The United States has almost always been a comparatively big nation, behaving under a theoretical preference for small places—expert in town meetings, county court houses, and suburban boroughs. Now it must cope with the organization and liberation of masses of people, and we need discipline to deal with this situation.

Game theory is clearly essential to global survival, planning, programming, and budgeting to the more effective management of resources. Indeed almost every critical issue of public policy, from nuclear strategy to energy and inflation and poverty, is increasingly susceptible to quantitative analysis. It should be a special challenge of higher education to link work in mathematics and statistics, too often today carried out in isolation, to the urgent matters with which the social sciences too often clumsily grapple. Mathematical skill is not enough, as the economists have lately discovered, but lacking a sense of quantity, size, growth, or stability, it is difficult to see a person as "educated."

2. The new technology is also concerned with rapid change. As Max Millikan pointed out, science until the mid-twentieth century dealt typically with two or three variables. Now the computer allows us to juggle an almost limitless number of factors. Until a student appreciates what Vannevar Bush and his colleagues bequeath us, he or she remains ignorant in a real sense. No one can or should avoid cybernetics. Does Alfred North Whitehead have more to say than Norbert Wiener? Is there a curriculum that can incorporate them both?

Handling information has always been the speciality of the intellectual. Handling information these days, with library, computer, translator, presents special challenges. Understanding and being able to use information processing and disseminating devices is a second essential that we must broadly convey.

3. Finally, the personal self acts as a counterweight to numbers and technology. Ten years ago, in the Vietnam agony, students were at the barricades, committed to the belief that an ideal, coupled with energy and passion were effective forces for directing and changing society. By the fall of 1970, college bookshelves across the nation were bending under the weight of an extraordinary outpouring of books by the young, for the young. Primers on home-grown revolution, memoirs of the barricades, were on the college best-seller list: Jerry Rubin, Abbie Hoffman, Raymond Mungo, Bobby Seale, *Push Comes to Shove, The Strawberry Statement*, and literally dozens of other authors and titles.

What are they reading now? According to the *Chronicle of Higher Education*, the most popular book on campuses across the country last year—and still among the top ten now—was *I'm OK, You're OK*, a psychiatrist's discussion of the way people deal with each other. It was followed closely by *Jonathan Livingston Seagull*, by Carlos Casteneda's studies of a Yaqui Indian shaman's view of reality, by Erich von Daniken's speculations on the travels of ancient astronauts, and by B. F. Skinner's observations on the behavior of pigeons and men.

The common thread in these vastly different books seems to be a search for a lost sense of relationships to others, to society, to the universal. No longer are students looking for strategies to use, with others, at the tumultuous barricades; they are looking inward to scale more personal walls.

In a recent *New York Times Magazine* article, Ronald Berman sought to assess the inward-looking calm that seems to have become the campus mood. "Things are quiet," he wrote, "because people do not relate to each other, because the fragile web of cultural assumptions has been broken without being replaced." The change is reflected in other ways: undergraduate concentrations in the early sixties favored natural sciences and political science, later on sociology and education; now on campus after campus the biggest demand is for psychology. Individual identity, confidence of self, self-satisfaction are increasing preoccupations of those engaged in higher education.

Can a university or college do anything especially effective in this area, beyond vigorously following the obvious ripe research opportunities of the relevant disciplines? Does it have a special role that family, church, neighborhood, high school cannot perform? Are four years in a residential isolated college beneficial or destructive to young people in their early adult years, or to older people returning? Can college teach anything that the street corner cannot?

There are clearly no certain answers here, although we have learned much from special programs for minorities, the evolution of extension courses, and the professionalization of counseling and guidance. But in an age of increasing complexity in numbers, in technology, and in human interaction, "coping" with the changing urban industrial scenery does not seem to come naturally. Clearly, the difficulties we experience in coping are recurrent and subject to classification, and the internal resources for responding can be responsibly identified.

Unleashing the emotional as well as cognitive potential of the members of the academic community, overcoming the crippling resistance to new knowledge, and putting that knowledge to good effect are three of our great pedagogic challenges today. To do all three things requires new combinations of disciplines, new groupings of gifted men and women, and new curricula, new resources. But more than restricting our numbers to the apparently fit, continuing to follow every rabbit trail of disciplinary research, or accepting our place as just another part of the "knowledge industry," these are our next urgent tasks.

Only higher education possesses the scope of speciality, the range and richness of resources, and the level of competence to undertake effective synthesis, to combine, correlate, and gather together the disparate experiences with which each of us is now assaulted. The implication of the concern with self is of course a resurgence of attention and influence of the humanities. For self-confidence and adaptability to our strange new world require most of all the capacity to recognize the patterns of recurring human experiences, whatever the new guises in which they appear. And that instruction has been the proud tradition of our liberal arts, however pummeled in a technological age. With humanities at the core, no longer defensive of either numbers or technology, it is possible to conceive of entirely new paths for reassembling learning experiences, fitting modes of instruction to the outside world, reforming secondary education, embracing nontraditional education.

But that is the task that we should be about now—to fit our institutions purposefully to our times—not to apologize for our existence.

CHARLES J. HITCH

Ten Years After, Ten Years Hence

For a society which tends to lionize the young and celebrate the now, nostalgia is enjoying a remarkable run. The parental generation is getting reacquainted with the big bands, fifties-style pop music fills the AM radio dial, thirties fashions are in, and useless knowledge from long ago acquires new worth in trivia contests. Even the Free Speech Movement has come in for the treatment, as a natural point of reference in these pages and for some students as a model from the past. In June of this year a brief series of demonstrations was held on the University of California's Berkeley campus which for participants and observers alike seemed more a sentimental imitation than the real thing. FSM and a few of its spiritual descendants have become myths, and like other parts of the good old days they cannot be totally recaptured. Fortunately.

I say fortunately because I believe that what started at Berkeley ten years ago was ultimately destructive of much that was good in the academic community. Of course, there were favorable aspects; I even thought so at the time. Complacency can always benefit from a good jolt, petty restrictions had to be sloughed off, causes were worth joining and struggling for, but on balance the cons outweighed the pros. Once again, ends—no matter how idealized—did not sanction any and all means. More than windows were broken in the process.

The days of militant unrest seem genuinely to be over. It would be well to be cautious about this, however, for there is something irreversible about the discovery of power, and both academe and society face problems that could once more evoke widespread indignation and action on the campuses and elsewhere. Predictions of continuing calm could be just as inaccurate as earlier prophecies of continuing disorder.

For now, however, student unrest is a part of history, a turning point on either side of which the academic picture seems an inverted reflection of itself. So much has changed so rapidly that sometimes it does seem as if 1974 is pre-FSM 1964 turned on its head. Is student unrest responsible? Did all the injuries to persons, property, and ideas really change the whole academic outlook? I think not. Some things, of course, are direct results of the protests, but I believe it is more likely that the causes of most of our changed and changing prospects were obscured by that period rather than caused by it. Perhaps the chief result is that our several present problems appeared all the more startling for having developed out of sight while we were preoccupied. There is indeed a legacy of change from the sixties, but its roots are diverse and coincidental. Let me outline a few of the problems facing colleges and universities, and some possible solutions.

Enrollment

The bull market for enrollment-driven institutional growth is over and bears now stalk hungrily down the academic corridors. Feast turned to famine seemingly overnight with the compilation of the 1970 census figures. Projections for additional new students are everywhere conservative, with the most optimistic of them predicting slow growth to around 1980, at which time even slow growth will end and a small absolute decline will obtain for a few years.

Like most real problems, the end of massive growth has no easy solution, perhaps no solution at all. Smallish institutions geared directly to the size of the youthful population will be severely tested; all institutions must change their thinking and their operations. As for what is to be done, in view of what we now know to be the size of the pool of potential students, the answer is not much. In some parts of the country, where the percentages of young people in higher education are below average, perhaps corrective action can be fruitful. In California, where an excellent and broadly available community college network has boosted the participation rate to around 70 percent, I believe we are near some kind of natural limit. More effective affirmative action programs may net more students—though growth in minority students may be balanced, at least in part, by an already discernible decline in the majority participation rate—and part-time adult-oriented degree programs such as the University of California's Extended University may add some more. But overall, I think all of us in higher education must get used to fewer students, relatively and, in a few years, absolutely.

I am not at all convinced this outlook is necessarily bleak. It certainly is true that the demands of growth were powerfully persuasive levers with state legislatures and other funding agencies, but what was obtained typically was swallowed whole by those demands. Just keeping pace with new buildings, new faculty members, new student services—the University of California literally doubled in size during the 1960s—was tremendously consuming of time, energy, creativity, and money; little of these precious commodities was left for anything else. We now are freed from the imperatives of growth and, though budgets may appear to suffer as a result, I think we are better off. After all, our function is not to grow physically, but to grow in service. Architect Mies van der Rohe said that less is more, and I think we might profitably apply that concept to our enrollment prospects: fewer students can mean more for those we do have.

Faculty

Tied directly to lower enrollment projections are reduced prospects for potential future faculty members, an outlook which impinges severely on today's graduate students. Academe itself has been the major consumer of its doctoral "products," but with restricted growth this popular option is being foreclosed rapidly. Although careful management, using such devices as early retirement, can ameliorate the situation, it cannot change it. No matter how we try, there will be substantially fewer faculty positions available in the future, and even these will be under the moral and legal pressure of affirmative action as well as numbers.

Leaving aside such dramatic changes as the abolition of tenure and profession-wide collective bargaining—at this point they are only speculation—there are several useful tacks which can be taken. The most honest and complete appraisal of research and teaching prospects must be made available to each potential graduate student so that, at minimum, career decisions are made in full light of the facts. Programs should be modified to fit the doctoral scholar for important work in governmental and industrial research and leadership. Selectivity should be increased to assure that those students who do train for academic positions have the greatest possible opportunity for successful placement. Though I am skeptical of proposals for a new doctoral degree stressing teaching rather than research, I think it is clear that teaching ability must receive greater emphasis in current Ph.D. programs. Of those faculty positions which are open in the future, many will be in non-research-oriented institutions. Governmental and private funding agencies must recognize—must be convinced by example as well as by argument—that major public and private universities are indispensable contributors to the nation's scientific and critical vitality.

Of course, success sometimes breeds its own problems. For example, the curtailed prospects for major university faculty positions have been widely published, and one result is that there is unprecedented demand for admission to the professional schools. Capacities have been breached, careers are by no means assured, and a new nettle has grown which we must soon grasp.

Central Control/Egalitarianism

Although private institutions are affected increasingly, the trend toward greater central control at the level of state government naturally has impinged more heavily on state-supported colleges and universities. That there is a trend in this direction is attributable to several converging factors: among them, the political fallout from the student protest period, one of the cases where unrest does seem to have made a lasting difference; the development of multi-campus systems and overlapping functions among systems in a state, in short, the need for coordination; the rise of social needs such as welfare and conservation which compete with higher education for state resources; and, of course, the fiscal squeeze, compounded by inflation, which affects state government in general and state-supported higher education in particular.

Thus, public universities more and more must cooperate in an intricate statewide pattern of jurisdictional planning and budgetary control which, so far at least, seems to have two main thrusts. The first is toward efficiency and accountability—in brief, toward obtaining the biggest educational bang for each educational buck. Though it has its regrettable aspects, such as shortsighted legislation of class contact-hour norms, by and large this part of state coordination is bearable, in some cases even salutary, for at base it seeks efficiency where we ourselves ought to be seeking it anyway. I have in mind such areas as interuniversity library cooperation, and cooperation between universities and other types of institutions.

The other thrust in the long range may be more troublesome, for it has less to do with dollars, which are at least a common denominator, and more to do with individual conceptions of social justice and the part higher education ought to play in achieving it. Briefly, and perhaps too simply, the problem is that the powerful political movement for equality of opportunity seems to be metamorphosing into pressure for equality of result. The instinct is laudable, but it cannot be translated into reality without compromising severely the essentially meritocratic structure of major universities. We must insist on equal opportunity and on affirmative action to make it more than a slogan, but we must also insist that our students and faculty members be qualified to do the special work required of them.

There are no easy answers here. I hope and expect that time and hard work at lower educational levels will do much to remove the issue, and differentiated systems of higher education such as California's can and do provide places for persons of many qualifications and aspirations, but at the same time I expect the pressure for egalitarianism to grow and to produce questions as agonizing as they are insoluble.

Research

All major universities will face the creative challenge of maintaining and increasing their scholarly contributions with relatively constrained support, but in this area, too, public institutions face an extra test—the need for large-scale problem-solving research in addition to the basic explorations so closely coupled to graduate education. Metropolitan, state, and federal agencies all look to universities for aid on major problems of technology and public policy and, while the private institutions to some extent can choose how far to go in organizing themselves to meet these needs, the major state universities have a built-in public obligation which they cannot, indeed should not, avoid.

This would not be much of a problem were funding agencies prepared to recognize that universities have dual research missions, but in fact there are indications that the agencies are more interested in getting answers than in supporting the base on which the search for answers depends. Somehow we must drive home the point that the one flows from the other, and that to feed the branches while starving the roots is as bad in planning as it is in horticulture. Basic research is just that—basic—and we must be more persuasive about this than we have been.

The only "solution" to this problem is more support more appropriately distributed, but one interesting and often overlooked bridge between the halves of the issue is that there are indeed practical applications inherent in much of basic research. The fact that an investigator does not approach a problem with applied-science goals does not preclude him or her from finding them if they are there. I am firmly opposed to a university acting as the R-and-D division of state government, but there is much to be said for relating the results of ongoing, basic research to the needs of the state for information and ideas. The problem in California is that nobody has been doing that relating, at least not officially or on a broad scale, with the notable exception of agriculture. At the University of California we are now filling that gap, building an information bridge in the energy field between our researchers and public officials and agencies by compiling a record of University persons and research work and making it available to the state. It may not slake the thirst for quick answers which plagues public officials confronted with an upset electorate, but it should go far to dispel the notion that basic research has no relation to the real world. As Glenn Seaborg says, much of applied research is just basic research with a time lag.

I have not tried to be exhaustive either in my listing of the problems facing higher education or in my treatment of those which I have chosen. I mean only to suggest the dimensions of where we are and where we might be heading. In part because they are so intractable, the most important questions I left out of my survey are those affecting the educational process itself: Is what we are doing the best way of doing it? How can the process become more personal? Is the lecture system efficient educationally as well as in terms of student credit hours per faculty member? For what kind of world are we educating our students? What kinds of roles can and should they play?

Merely to phrase some of the questions illustrates the depth of the issues and the inadequacy of what we might pose as answers. Yet the important thing is that questions are being raised—about education, about research, about public service and faculty composition and professional school enrollments and all the rest. The exciting thing about 1974 is that our options are open and our view of the future is not fixed. While I was preparing this article I happened across a column by James Reston in which he put into words my precise feeling.

> Nothing has been settled, but everything is under discussion. All human relationships between men and women, between the big powers and the small powers, within the family, the university, and the church are being analyzed and disputed. In short, we are coming into an age of philosophy when it is possible to talk about the meaning and quality and environment of life.

The Free Speech Movement was too grandly named at the time and led, ironically, to orthodoxy of speech as well as to discord and destruction. Yet it may have been in the charged crucible of those unhappy times that the habit was formed of asking the unasked, of doubting the eternal verities, of seeing different futures. Ten years after, that is not a bad place to be. I hope we can say the same in, of all years, 1984.

ADAM YARMOLINSKY

Institutional Paralysis

ONE OF THE more remarkable things about universities in the first three quarters of this century is that, with a few honorable exceptions, they have managed to survive, and even to prosper, without developing any conscious process for making institutional choices. Unlike businesses or public agencies of comparable size, universities by and large have no effective mechanisms for translating fundamental policy decisions into resource-allocation decisions. This is not to suggest that the university has failed either in the pursuit of excellence or in service to society. But I do propose to argue that it has succeeded only to the extent that special groups within the university have been able to reach out for new resources. Now that universities are discovering the limits of growth, they must also learn a good deal more about the art of governance, which, we have been taught, is the art of choice.

Up to now, the allocation of university resources has been determined almost entirely by chance, by power grabs, or by the operation of an informal internal marketplace mechanism in which groups of students, government agencies, and foundations bid against one another. This has tended to be true whatever the institutional choices that are involved: the mix of teaching, research, and service; of natural science, social science, and the humanities; of undergraduate and graduate education, of mass and elite education; or of traditional and innovative education. The lack of institutional process is particularly paradoxical, since individual faculty members probably have greater freedom of choice in determining how to spend their energies than do persons in other occupations. Only a scholar can accurately describe the bulk of his activities in terms of his interests.

The only major exception to this rule is the proliferation of community colleges after World War II, and they have tended to become part of the system of secondary education, where development is controlled by public authorities. Minor exceptions are almost entirely in very small institutions, where direct democracy can involve the entire professional community of the institution.

The institutional paralysis of higher education is a result of four fundamental disjunctions within the university's body politic: the disjunction between faculty and administration; the disjunction between substantive planning and budgetary decision-making; the disjunction between departmental structures and functional areas of university concern; and the disjunction between the theory of direct democracy and its practice in the university.

No institution in the United States puts more constraints on its administration than a university. The administration cannot hire or fire a faculty member on its own initiative. It cannot initiate a new course offering, or modify or abandon an old one. It cannot determine the requirements for completion of a course of study, or decide whether or not a student has met those requirements. And, in most cases, it can neither admit nor dismiss a student.

Without denying the sharp limits on the freedom of any large institution's management to effect drastic change, and the universal need for consultation and accommodation within the bureaucracy of any institution, surely this catalog is a unique one. The involvement of labor unions, for example, in management decision-making is a great and growing phenomenon; but bargaining still begins with the assumption that it is chipping away at management prerogatives. In the university world, on the other hand, the administration has no prerogatives. It has certain limited powers, but it is not legitimated as a substantive decision-making agency.

The antiquated notion of the administration as being there to sweep the halls, mend the seats, keep the students in line, and see that the bills (and the salary checks) get paid on time has not changed a great deal over the decades. When the then Chief of Naval Operations, Admiral Anderson, said to the Secretary of Defense, Robert McNamara, at the time of the Cuban Missile Crisis: "Now you go back to your office, Mr. Secretary, and let us run the blockade," he was expressing a point of view analogous to that of the faculty member vis-à-vis the university administration on educational policy. The other side of the coin turned up during the years of student revolt, when faculty members assumed at first that this was merely a matter of keeping the students under control, and could, therefore, be left to the administration to handle.

If the administration is denied authority over the substance of educational planning, at least it has authority over the budget. It decides how much money to ask for, from the legislature or from tuition, how much to spend out of endowment income (or even out of principal), what capital expenditures to incur, and how to allocate the operating budget. It has the final word on salaries, including academic salaries. But this budgetary control is illusory, because it is divorced from control of educational policy, which is ostensibly in the hands of the faculty. What remains for the administration is only incremental decision-making, modifying the details but not changing the main outlines of the university.

Indeed, most university administrations have little notion of educational program costs. They know that graduate education is more expensive than undergraduate education, that medical education is the most expensive of all, and that adult education can pay for itself—if you set it up that way. But few universities can match costs with program alternatives. Because administrations are inhibited from making program decisions, they have been agonizingly slow to acquire the tools to adapt budgetary decision-making to program planning, although these tools are in common use in other parts of the economy. Functional budgeting is almost unknown in the university. The costs associated with starting a new program—or phasing out an old one—are generally treated on an ad hoc basis, thus not only providing unnecessary surprises, but putting additional, unnecessary obstacles in the path of institutional change.

If university administrations are not well situated today to make decisions on educational programming, neither are faculties. The basic unit of faculty organization, the department, has several disabilities in this regard: it is too small, in size and scope, effectively balkanizing the educational process. It lacks a workable mechanism to adapt its subject matter to new needs and new concepts—particularly in the social sciences and the professions. Junior faculty members pursuing policy-oriented research in economics or political science are apt to be told that they are not showing the proper devotion to "economic science" or political science. And, too, the department is not remarkably receptive to activities that overlap departmental boundaries. Interdepartmental committees can plan projects, but departmental committees assign teaching responsibilities and measure scholarly performance.

The department is the basic unit in the reward system of the university. Professional advancement is determined by one's departmental chairman and colleagues. The twin issues of tenure and marketability of one's skills outside one's own university are decided in the departmental arena. And arguments over the allocation of scarce resources of dollars and positions are conducted among departments, too often on an exchange-of-favors basis.

The last major obstacle to institutional change in the university is the considerable gap between the theory and the practice of direct democracy. The theory that substantially every member of the university faculty will assume responsibility for the welfare of the institution by participating in a common assembly is increasingly contradicted by the reality of sparse and sporadic involvement. Faculty members cannot do teaching and research, and engage in public-service activities, and still have much time to spend in the agora. Such participation as there is comes largely in response to issues of particular importance to particular faculty members. Faculty deliberative bodies thus tend to become forums for pleading a multitude of special interests, rather than for articulating the general interest.

Even in those institutions that have substituted some form of representative assembly for the direct democracy of the general faculty meeting, there may not be enough interest in the electoral process to produce a really representative body. The tradition of direct democracy is so strong that representative democracy has not completely caught on.

Because of these four disjunctions no one group in the university has all the factors necessary for institutional change: the concern, the status, the authority, and the equipment to achieve institutional change. The university administration is most likely to have the concern. It can see the institution as a whole and in the context of a rapidly changing real world. But the administration lacks the status, in the eyes of the faculty, to initiate major change. It has not been legitimated as a change agent. Further, it lacks the specific authority, in most cases, because it cannot take the initiative in matters of educational policy. And, by and large, it has not developed the analytical tools to do the job.

What is true for the administration is *a fortiori* true for the trustees, to the extent that the two entities can be distinguished. While they may have formal authority to make any changes they see fit, rather than responding to administration proposals, custom and tradition debar them from taking the initiative, even if they were moved to make the attempt. And as a collection of part-timers, without any staff of their own, trustees are ill-equipped to organize for the complexities of change in an institution as complicated as a university.

Faculty, on the other hand, are likely to find their concern for institutional change biased by their primary concerns for the welfare of their own departments and disciplines. As a group, they have the status to legitimate change—if they can act together as a group—but their authority is fundamentally flawed because they control policy (and promotions) but not budget. And they are spectacularly lacking in the analytical tools necessary to work out major programmatic changes.

All of these limitations on faculty initiatives in institutional change are even more applicable to student initiatives, with the added limitation that students are not around the university long enough to make a lasting difference—although the kind of education they get will be with them for the rest of their lives.

Given the difficulties of each of the actors, what hope is there? How can institutional change be initiated and carried through in conscious, deliberate, planned fashion?

The simple solution would be to give full authority to the university administration—not only authority to allocate the budget (the overall size of which is largely determined by the administration's efforts), but also authority to assign faculty resources to new tasks, to hire expertise not available within the institution, and to fire nontenured faculty whose talents do not fit with the new plans. Such a solution would, in theory, remove impediments to the process of institutional change. But, in practice, it would create such extraordinary faculty resentments as to negate entirely the possibility of change.

It would also give new impetus to what may be the most startling development in faculty-administration relations: the unionization of the faculty. There has been too little experience with unionization to make any sweeping generalizations about its consequences. But it seems reasonable to suppose that if this is the direction in which faculties are going to move, they will have to give up the substance of their claims to be part of management, in order to secure recognition of their claims to the rights of labor. There is also some danger that, if unionization of faculty spreads, it may lead to centralized collective bargaining within multicampus institutions, or even within a major geographical jurisdiction, thus threatening the hard-won fiscal autonomy of public universities.

At the other end of the scale, budgetary authority could be transferred to the faculty, and they could, as a body, prepare and ratify the university budget. Lacking the power of taxation, they could not determine the overall size of the budget, but they could decide how much to ask for from the state legislature, or how much to charge in tuition, and what goals to set for the periodic alumni fund drives. The difficulty with this approach is that, by contrast with federal and state legislators, faculty members are preoccupied with other matters. As a group, they are not even good part-time planners. And even with the chastening responsibilities that accompany budgetary authority, they are all too likely to behave like the Joint Chiefs of Staff before the McNamara reforms in the Pentagon, dividing up the budgetary pie on the principle of fair shares, without regard for the need to make the separate parts of the institution work together as an effective whole.

Between these two theoretical extremes, there are a number of possible intermediate positions. The appropriate mix of faculty and administration authority depends very much on the circumstances of each institution—and can change over time within the institution. But the choice of a particular formula is less important than the creation of the necessary preconditions for an effective institutional change mechanism. There are at least four major preconditions: a comprehensive management information system; a reasonable division of responsibilities among administration, faculty, and students; an acceptance by faculty of representative government, as a working principle; and the legitimation of university administrations in the eyes of faculty—and, *pro tanto*, in the eyes of students.

Universities need to know a good deal more about what happens between the time a student enters and the time he leaves the institution, with or without a degree —not only in costs, but in the allocation of resources and the actual processes by which education is ingested—or extruded. The potential exists for comprehensive computerized systems, with appropriate safeguards for individual rights of privacy, combining information about students, faculty, courses of instruction, physical facilities and operations, and the flow of dollars and human resources. Easy access to such information is an essential for effective planning.

Universities need to rethink the division of responsibilities between faculty and administration. A division based on instrumentalities (budget authority versus appointment authority, for example) makes no sense. There is an enormous range of issues on which faculty—and sometimes students—have important things to say to administrators or administration planners. But these issues are not distinguishable by whether or not they involve spending budget dollars. The allocation of student places and faculty resources among undergraduate, graduate, and professional schools seems a matter on which faculty input is essential. But that input, whatever its significance in the ultimate decision, can be only an unrealistic one unless it is addressed as much to the dollar costs of the various options, as to their educational consequences. Because money is a medium of exchange, it has the great virtue of measuring opportunity costs in a world of scarce resources. Without some knowledge of opportunity costs, intelligent judgments cannot be made about the value of benefits. Otherwise, the faculty can deal only in dreams—and the administration is reduced to dealing only in present realities.

The judgments that need to be made by faculty are too many and too complex to be made by the entire body of faculty of a university, or even by the faculty of a school or division. But those judgments cannot be made by a representative faculty body that is not taken seriously by the whole faculty, in the process of selection, and, therefore, does not take itself seriously. Furthermore, the faculty members of committees that do so much of the work of governance in the university need to take themselves more seriously as faculty representatives. In the absence of any functional equivalent of party discipline, committee members need to feel a special sense of responsibility to the entire university community.

Lastly, no administration can carry out the major policy responsibilities that it must bear in a university today unless it has the confidence and respect of its primary constituency, the university faculty. That assertion contains a premise that may be open to challenge, and, therefore, needs explicit examination. It may be argued that the primary constitutency of the university is either the student body, as presumably the most direct beneficiaries of the educational process, or the trustees, as the designated surrogate for the body politic, which is the ultimate beneficiary of the process.

But this brings us back to the special character of the scholar as the person who pursues his own interests. Teaching and research of the quality that puts them at the university level cannot be coerced, nor are they the products of the traditional employer-employee relationship. The notion that a faculty member is not an employee may be more fiction than fact, but it is part of the myth on which higher education in our society depends. The university tradition has many roots: In the heyday of the Oxbridge colleges, the faculty was the college; in the continental universities, professors competed for student fees; and at Harvard, as Dean Griswold used to remind the Law School faculty, the only entity created by law is the seven-man Corporation. When faculties today ignore the needs and demands of students and of the general public, they do so at their peril; but when they respond to those needs and demands, they do so with a freedom that is not accorded to members of a bureaucracy or to competitors in the marketplace.

Yet flesh and blood faculty members do have tendencies, both bureaucratic and entrepreneurial, they may cut across the bows of administration initiatives for institutional change. This is especially so as faculty members act through established departments. Administrations, in order to achieve institutional change, may have to legitimate new ad hoc groupings of faculty members, until the new groupings acquire their own bureaucratic momentum. Faculty and administration are natural and inseparable antagonists; neither one can take a major action without the consent or at least the acquiescence of the other.

Achieving confidence of the faculty in the administration, and freedom of initiative in the administration vis-à-vis the faculty, is the central problem for the management of change in the university today. What is needed is a new bargain, which might be proposed initially by the administration somewhat along these lines:

The administration would offer to share with a representative faculty body its plans for the development of the university, including functional budget projections for a five-to-ten-year period. These plans would be submitted to the faculty in time to permit a deliberate review by that body—a review that would be taken into full account by the administration. Similarly, plans might be submitted for comment to a representative student assembly, particularly where they involved issues on which student views would be especially relevant. On the premise that any deliberative body is better equipped to react to proposals than to formulate them, neither the faculty nor the study body would be involved in the initial preparation of the plan (except as individual faculty members and students might be drawn into the process for consultation).

The administration would agree to respond in detail to the reactions of the faculty and, perhaps, even to provide for a second round of exchanges of views. The faculty, in turn, would recognize the authority of the administration, after appropriate consultation, to make educational policy decisions for the institution. Given faculty acceptance, and reasonable good will and sensitivity on the part of the administration, it would be hoped that students would accept that authority as well.

In a university where the Board of Trustees played an active role, policy decisions would make their way through the committee structure of the Board, staffed by the administration, in order to permit the Board to function effectively. With or without an active Board, the administration would need an adequate central staff, including persons with specific training in educational planning and program budgeting. In a multicampus university, the decision-making process would be more complicated, but the principles would remain the same.

One attempt to redefine the allocation of responsibilities is being tried out at the University of Massachusetts, with its new governance scheme. The primary responsibilities of faculty, students, and administration are defined, in general terms, in a governance document. Initiatives originating in the faculty and student representative bodies, on the several campuses, within their respective spheres of competence, are transmitted to the Trustees through the campus and University administrations, and if not acted on unfavorably within specified periods of time, take effect automatically. Overall budgetary and planning processes are subject to continuing review by University-wide committees. The system is still in its first year of operation, but it is already providing a useful model for the conscious reorientation of the system.

The new division of responsibilities envisaged here would not be a simple one. Individual faculty members must retain the basic responsibility for their own teaching and scholarship: the content and methodology of their courses, the evaluation of their students, the conduct of their research. They must determine the allocation of their energies among teaching, research, and service—not omitting the possibility that some individuals may devote all their energies to the first two elements of this triad, or even to the first one. Because scholars are entitled to the judgment of their peers, faculty members, organized by disciplines or other appropriate groups, must choose their colleagues, and initiate decisions about their advancement and tenure.

At the same time, administrations have to decide what kinds of education to provide to what kinds of students, and what kinds of teachers and scholars are needed, in what numbers, to provide that education. Administrations must decide which schools and departments to expand and which to cut back.

As was pointed out at the beginning of this essay, when enrollments are leveling off and even shrinking, there can be little if any expansion into new fields, without roughly corresponding cutbacks. But expansions and cutbacks require revision of individual faculty commitments, which in turn requires consultation and consent from the individual faculty members who will be undertaking new tasks. Changes in schools and departments affect the number of faculty positions that will be available at specified future dates, and these numbers need to be taken into account in tenure planning. Fixed tenure percentages or quotas are inconsistent with the need for flexibility in order to maintain a standard of excellence. New kinds of students cannot always be measured, in selection or in performance, by the same yardsticks that have been traditionally applied. But faculty members, individually and collectively, must remain the guardians of the standards of excellence that measure the quality of the university.

Moderating between these competing needs and responsibilities is a task that calls for a good deal of mutual understanding, forbearance, and imagination. The problem is not peculiar to the university. The same difficulties arise, and must be resolved, between the responsibility of individual physicians to prescribe for their patients' ills, and the responsibility of lay administrators and regulatory agencies to allocate scarce health resources, when the allocation of those resources will affect the opportunities for physicians in an increasingly complex and interdependent health-care system. And the same difficulties arise between the responsibilities of the professional military man to develop and procure the most effective fighting force, and the responsibilities of the civilian leadership in the Pentagon and the White House to take account of overall budgetary limitations and international political considerations, including the potential for arms control and disarmament. One may at least hope that universities will lead the way in resolving these universal difficulties.

W. ALLEN WALLIS

Unity in the University

IN MOST OF the serious conflicts that occurred on campuses during the Great Campus Craze of the Sixties, the nominal issues were only surrogates for the real issue—how the university was to be governed. However the conflicts started and whatever their course, they invariably culminated in demands to "restructure" the university to a degree that was more or less proportional to the amount of fury, irrationality, and violence. When academic governance is discussed through surrogates, the discussion inevitably lacks intellectual quality and honesty, it generates emotions that cannot be contained in terms of the surrogates, and the real issues are evaded or dealt with by stealth and indirection.

To think about the governance of the university, we must think about the university. What is it? How should its institutional objectives be set? How should the specific goals of parts of the university and the general goals of the whole university be articulated? How are these goals to be pursued, by whom, and with what priorities?

In thinking about such questions, our criterion must be effectiveness in advancing the university's mission. Too much of what has been said and written and done about governance seems to assume implicitly that the objective is for us who have gotten into the university to arrange its affairs for our own greatest pleasure, enjoyment, and gratification—not even for our own greatest intellectual advantage. A consideration cited frequently is the "feelings" of those in the institution. But, as Lloyd Elliott has said:

> The objective of university reform and restructuring is clearly the improvement of the educational program. The objective must not be identified with or allowed to become placation of one group over another, a compromise with student power, or a preservation of the *status quo*. The overriding objective must be a more effective educational program for all concerned. No other motive can be allowed to intrude.[1]

To put it succinctly, judgments about university governance should be based primarily on effect, only secondarily on affect.

This point needs emphasis because it is the opposite of the considerations that seem to have motivated implicitly the restructuring of several major universities and to have influenced piecemeal reforms at many others. The dominant contemporary viewpoint, not alone in universities but in public affairs generally, focuses on apportioning benefits rather than on providing additional benefits—it focuses on distribution rather than production.

We live in a "divvy-it-up, use-it-up" generation. The vast quantities of goods and services which help meet our material, cultural, and spiritual wants are assumed simply to flow from nature, like the Mississippi or Niagara Falls, independent of human effort, sacrifice, or forethought, and independent of the way the goods and services are apportioned or used. Social problems are viewed, therefore, almost exclusively as questions of the division of the flow of benefits.

Even questions of division are thought of not in terms of devising a social system that now and in the future will generate satisfactory flows from the general stream to individuals, but in terms of transfers of goods and services by the force of a central authority from where they "happen" to be to people who are judged by the central authority to be more deserving.

The contemporary generation, feeling that the only social problems of any significance are those of the coercive division of an overabundant supply of goodies, understandably is obsessed with equity. Their concepts of equity, however, are simplistic, scarcely looking beyond direct comparisons between pairs of individuals, and ignoring the secondary effects on third parties.

A hypothetical example may clarify what I mean by effects on third parties. Suppose that two young men are applying for admission as students at a medical school which has room for only one of them. Suppose that they are equally deserving as judged by their sincerity, idealism, compassion, devotion to peace, abhorrence of racism, concern about the environment, respect for women's rights, opposition to population growth, or whatever traits are judged to measure merit. In such circumstances, many of our contemporaries would favor tossing a coin: witness the popularity of the lottery as a method of selecting military conscripts. Others would try to compensate for the inequities of the past by choosing whichever of the two young men had had the less good fortune previously. The intent and effort, in any case, would be to attain the greatest possible equality between the two individuals.

But is this equitable to third parties? Suppose that the first applicant, thanks to his good fortune in having innumerable advantages of birth, upbringing, and luck, would come out of the medical school a far superior physician and also a brilliant researcher. Is it fair to deprive the patients he could treat, and the people who could benefit from his discoveries, in an attempt to offset the inequities that have befallen the other applicant? Suppose, further, that the other applicant, because of innumerable disadvantages of birth, upbringing, and luck, would not, even with the best medical education, be more than a bloody bungler, endangering the life of every patient. Is it fair to subject patients to him in an attempt to offset partially his earlier misfortunes?

The interests of the third parties who are ignored in the contemporary simplistic obsession with equity are likely in the aggregate to outweigh by far the interests of the two medical school applicants, simply because there are so many third parties, and because so many fourth and fifth and *n*th parties are affected by the health of the third parties. So what seems to be equity when only the two individuals immediately at hand are considered is, in fact, great inequity from a broader social viewpoint. From a social viewpoint, equity will be attained by selecting between the two applicants so as to make the medical education most effective—that is, by selecting the applicant with the greater ability, talent, industry, and aptitude for medicine. This would not, of course, preclude rectifying the simple inequity between the two applicants by doing something which would have no effects on third parties—for example, requiring the superior candidate to give the rejected candidate money, deference, or apologies.

The criterion to apply in issues of university governance must be contribution to the university's effectiveness in accomplishing its mission. It is not an unassailable position, but nevertheless it is constructive to suggest that a university should strive only to achieve the most that it can in its particular domain, without regard to whether the good that it does is equitably distributed.

Such a statement is too extreme because one can hardly claim to have done good if the benefits are not distributed, and the more narrowly they are distributed the closer they are to no distribution. Such a statement also runs into difficulties about the temporal component of the benefits, for one of the special missions of a university is to take a long view and give more weight to the interests of future generations than would result from a business-like cost-benefit analysis based on compound interest and actuarial tables.

Nevertheless, the point deserves emphasis, even though it does not deserve unqualified acceptance, that a university's concern should be primarily in generating the most that it can of the benefits that fall within its particular mission. The distribution of its benefits almost always will be found to be equitable when the concept of equity is as broad as it should be, considering mostly the interests of third parties, including those not yet born.

One clear implication of this principle is that, as the report of a committee on academic appointments at the University of Chicago put it, "there must be no consideration of sex, ethnic or national characteristics, or political or religious beliefs or affiliations in any decisions regarding appointment, promotion, or reappointment at any level of the academic staff."[2]

Universities differ in their missions. They all engage in preserving, discovering, disseminating, and applying knowledge, but each of these ingredients may represent scarcely any or nearly all of the effort of a university. Furthermore, the activities within any of the four categories vary among universities.

Preserving knowledge may involve the world's greatest libraries, museums, data banks, and learned men, or it may involve only a few thousand textbooks, treatises, and reference works and men who, even if competent and informed, are by no stretch of the imagination learned. Discovering new knowledge can range from research continuing for decades and generations, on such subjects as the origins of civilizations and the formation of galaxies, to a quick answer to an urgent problem of garbage disposal or reorganizing an inventory system. Disseminating knowledge may take the form of intimate collaboration of world-renowned authorities with postdoctoral fellows, or of a laboratory assistant monitoring a large number of students while they practice assembling machinery. Applications of knowledge may range from developing new understanding of immunology to vaccinating children against smallpox.

With larger fractions of the population pursuing education beyond high school, even more diversity among universities is required, so that they can specialize on the needs of special clienteles. Even now, however, there is little in common between institutions at opposite ends of the spectrum of colleges and universities—between, say, Chicago and Rattlesnake County Institute of Environmental Technology, or between Rochester and Gravel Switch Community College of Cattle Culture, and there is every reason to presume that methods of organization and governance suitable to Chicago and Rochester are unsuitable to Rattlesnake and Gravel Switch. One of the afflictions of higher education in America is an illusion that arrangements about teaching loads, class size, faculty tenure, and university governance that are appropriate to (or at least are in effect at) Harvard, Chicago, or Stanford should be universal. In this essay I have in mind, of course, mainly places that do the kind of work and serve the kind of clientele of universities such as the forty-eight whose presidents or chancellors constitute the Association of American Universities.

Universities such as those have a kind of bottom-up organization. Failure to understand this is one of the reasons so many outsiders find university governance incomprehensible. Most students, some trustees, and a few faculty, as well as outsiders, make the mistake of looking at a university as a hierarchical or line organization. They picture a board at the top, to whom reports a chief executive officer, "under" whom and his associated staff officers come the deans, "under" whom in turn are department chairmen serving as foremen, and "under" whom are the various grades of faculty. This view of university administration renders incomprehensible the actual workings of a university, especially the ways its most important decisions are made.

A university's working can, however, usually be understood by looking at its structure upside down. It is as if the faculty were a group of independent professional practitioners, banded together in group practice like the lawyers of a law office, the physicians of a medical clinic, or the partners of a public accounting firm. Individual faculty members make the decisions which dispose of most of the university's resources. They determine the content of their courses, the textbooks, the teaching methods, and the requirements and standards for students. They select their own research and service projects and are evaluated not by their administrative "superiors," but by their professional peers throughout the world.

Since the faculty are in group practice, so to speak, they come together in their groups or departments for joint determination of curricula, for selecting members of their groups, and for allocating resources to graduate students and to faculty research. To serve them in their cooperative activities, they have a chairman, selected by them or largely by their influence. Since a number of such groups cooperate in a college, there are meetings of faculties from several departments to provide for joint functions, particularly setting curricula, coordinating teaching in related fields, and selecting faculty and students. To serve the group of chairmen in a college there is a dean. And so on down the line, each level of administrator being there to serve groups that to outsiders appear to be his subordinates. At the end of the line is a board, whose purposes are to support the faculty by raising and managing money and to serve as the university's interface with the "real" world.

Now, of course, no university of consequence in this country operates in that bottom-up way to the degree that I have just described. But the bottom-up account portrays most of the important decision-making in a university better than does the hierarchical account. A famous former dean at the University of Chicago, Ralph W. Tyler, once described his function as being like that of the man in a white suit with a broom and pan who follows along behind the circus parade to tidy up after the elephants.

The degree to which and the respects in which a university is administered better in a decentralized, bottom-up way than in a centralized, hierarchical way differ among institutions, change with time at one institution, and probably vary from one part of a university to another at any one time.

A hierarchical or centralized organization is better suited to managing change and to meeting commitments to outsiders.

> It is predictable and reliable. It can be controlled and directed. It can assume responsibility for bringing about a prescribed result. Correspondingly, however, a centralized organization has little ability to adapt (in the sense of developing novel responses to unprecedented conditions) and none to adapt quickly. The great advantage of a [bottom-up] decentralized organization is its adaptability, both in the sense of speed and in the sense of making many simultaneous adjustments to details of infinite and unanticipated variety.[3]

In short, a centralized, hierarchical organization is better for dealing with action, and a decentralized, bottom-up organization is better for dealing with knowledge.

Legally, of course, American universities are strictly hierarchical. Their boards of trustees or regents have final authority and responsibility. Many of the most important responsibilities of the trustees can be fulfilled best by delegating them to the faculties, however, and in this way universities have become de facto bottom-up organizations in large measure, even though they may be hierarchical in the eyes of the law.

Edward Shils has argued cogently that the central problems of university governance today are a byproduct of the de facto shift of authority from trustees and presidents to departments and individuals. Before 1890 the presidents of American colleges and universities were autocrats with complete backing of the trustees, Shils says.

> [By 1940], the teaching staff . . . obtained full control of appointments, promotion, degree requirements, new courses of study and research arrangements, the powers of the quondam autocrat and his minions becoming perfunctory. . . .
>
> Between the greatly strengthened independence of departments and of individuals within departments, and the weakened authority of president and trustees, there came into existence within the university a no-man's land, where the writ of "legitimate" authority did not run. It was the area of decisions affecting the entire university . . . , [d] ecisions as to the size of the entire university or the size of constituent units and the existence of new units . . . , [u] niversity-wide matters such as disciplinary regulations, admissions, rules which had to be applied uniformly over the whole university.[4]

When it became necessary during the Great Campus Craze of the Sixties to exercise these powers:

> there was no one except the president, a dean or an "administrator" to do so. The academic section of the university did not like this. . . . They had no conception of the university as a corporate entity of fundamental substantive importance . . . [with] a special intellectual function of its own, which is the exemplification and cultivation of the ethos of intellectual work. . . . [I] f the vast majority of American university and college teachers, young and old, were willing to acknowledge the legitimacy of "the administration" . . . , there would be no problem. . . . The crisis of the American universities, which has variously been said to consist of the attack by students from within and by a disillusioned public and its political leaders from without, is to a much greater extent a crisis of the disaggregation of the university through departmental and individual centrifugality. . . . Against the chorus of universal praise which has recently been given to the departmental system, it is necessary to speak out emphatically for the existence of an institutional counterweight of a strong president and a coherent and responsible senate or council of the regular teachers, which would continuously represent the interests of the whole.[5]

How the forces that Shils analyzes work in a specific case was brought out vividly in an anonymous article on the University of California:

> Chancellors and Deans are generally weak men with little personal prestige, little knowledge concerning the political groups with which they are dealing, and little formal power. They are pressed . . . to be firm and resist politicisation. Yet the real danger to their position seems to come from the outbreak of a visible confrontation. Their effective policy becomes one of avoiding a public conflict, mass demonstration, strike, or sit-in, by yielding to the demands of those segments of the student body and faculty which will cause the most trouble if denied their demands. The conservatives and moderates, even though a majority and concerned with academic standards, can be ignored or kept quiet with fewer concessions. Most campus conservatives are in fact liberals, even self-conceived radicals. They are reluctant to oppose the student activists or the minority militants publicly, for this will identify them to students and their discipline colleagues across the country as "reactionaries." Although they may realize that the Regents and even the Governor are potential allies in a struggle against politicisation, they rarely seek to ally themselves with them. To do so means "supporting the Establishment . . . working with arch reactionaries." They, therefore, complain bitterly in private about the weak-

> kneed administration of their campus; they exchange horror stories about radicals appointed or promoted for their politics rather than their scholarship. They tell each other of ways in which the Chancellor has yielded to pressure from the student or faculty Left. Yet except for sending delegations to the Chancellor, they have tended to keep quiet. Consequently, most of the Chancellors ignore them, while propitiating their opponents. This policy has had the inevitable consequence of stimulating the more activist students to escalate their demands and tactics, since their goal of continual radicalising requires confrontation.[6]

The individuals associated with a university, in particular the students and faculty, think of it and associate with it in widely different ways. At one extreme is an instrumental or liberal conception, at the other a communitarian or collectivist conception.

The instrumentalist uses the university to advance his purposes in the same way that he might use Ozark Airlines—because it may take him from where he is to where he wants to go.[7] He conceives of the university simply "as an environment that enables a great many intellectual activities to take place," and thinks "the best university is the least governed one," decentralized and individualistic, where everyone minds his own affairs and stays out of other people's except on invitation.

In the communitarian view, at the other extreme, the university is conceived of as a band of people whose lives are united by deep and warm bonds of fraternity and equality, in which each is his brother's keeper. What is done at the university is done in the name of all, so all have a right to participate in everything, and no one has a right to carry on activities of which others disapprove—certainly not if the majority disapprove. In this view the university involves whole people in their whole lives, not just the intellectual qualities of people in their intellectual activities. It is the kind of community which arises from shared purposes, shared beliefs, shared feelings, shared commitments, shared experiences, shared pride.

One observer, a law professor at Berkeley obviously not enchanted by the communitarian view of the university, commented ruefully that "there is no better way to build a community than to have a generally approved riot. Everybody loves everybody else, and you get to know them."[8] And, indeed, participants in campus demonstrations or riots commonly reported a feeling of exhilaration and transmogrification that comes from submerging the self into the group, from consciousness of unity and rightness and greatness—much the same spirit of community that is reported from religious revivals, from the Woodstock Festival, and from "sensitivity" or "encounter" groups.

Another observer, less mordant but no more enchanted, wrote: "Ideally, the idea of a university in which there is a heightened state of awareness on the part of faculty and students as to the significance of what is being carried on seems good. In practice, there is danger that participation will result in encouraging a busy-body type . . . who will make a career of sitting on committees and bossing other people."[9]

The contrast between the instrumental and the communitarian university recalls *The Education* of Henry Adams, fated to live amidst twentieth-century multiplicity, but yearning for thirteenth-century unity.

No university is at either the extreme of communitarianism or the extreme of instrumentalism, if for no other reason than that almost no human being could endure the total absence of either characteristic—certainly not a human being who both thinks and feels. Everyone needs some feeling of community with those around him, and everyone needs to think about his private ideas and interests in his own way. So actual universities and colleges are ranged along a continuum almost from one extreme to the other, with large urban commuter universities generally nearer the instrumental end and small rural residential colleges nearer the communitarian end. The preferences of individuals—students, faculty, administrators, and trustees—are similarly well scattered over the whole range, making possible a reasonable matching of individuals to institutions.

Colleges and universities differ in many other dimensions, but the communitarian-instrumental dimension is particularly significant for governance. For the predominantly communitarian institution, collective, participative, and majoritarian forms of governance are appropriate, while differentiation and specialization are mostly inappropriate, especially in governance. For the predominantly instrumental institution, decentralization, individualization, and specialization of functions, including administrative functions, are appropriate, while the politicization and amateurism of collective decisions are mostly inappropriate.

There can be little doubt that the greatest social value of universities arises from that much-abused concept—academic freedom. By academic freedom I refer, of course, not to institutional autonomy, but to the right and obligation of each individual member of the faculty to teach and publish the truth as he sees it and to choose his own subjects and methods of research and disclose his findings without regard to their consequences. An instrumental, decentralized, or liberal organization maximizes academic freedom. A communitarian, centralized, or majoritarian organization is inconsistent with it, at least in principle, since the central administration, whether an individual or a council whose majority vote rules, asserts a right—perhaps an obligation—to see that no part of the university carries on activities which, by offending other parts, might chill the warmth of allegiance and good-feeling in the community.

As Robert Nisbet has said:

> What the university in America had to offer was not unique manufacture of knowledge, but a unique structure of authority resident in a unique intellectual community. Very little else. . . . Potent though this structure of authority was, it was yet so finely drawn, and so much a part of the very atmosphere, as to be nearly invisible. Thus the essential character of the academic community, thus the special nature of academic freedom.[10]

Edward Levi, referring to "the basic freedom of these institutions" and to training students "in the disciplines of thought, the appreciation of cultures, the criticism of reason," made the same point: "It is these qualities and this freedom . . . which have given to our universities their basic quality and their true value."[11]

But even the most liberal, unstructured, decentralized university must provide something more than a good environment for individual work. It should be more than a kind of industrial research park for academics—though some of the finest research parks do pride themselves on "a campus-like setting," many of the people who work there are Ph.D.s and wear the same jacket-slacks-beard-and-pipe of the campus, and much of the work in the laboratories looks at least superficially like work in university laboratories.

What should be the nature of the bonds that make a group of individualistic, self-directed scholars and scientists not just a research and educational park, but a university? Robert Hutchins hoped thirty years ago at Chicago that the tie might be a common body of knowledge, or of philosophical principles; but the mere thought of that united the campus in opposition—and properly so. At some universities a strong common interest of the faculty is the football team. Occasionally an off-campus hobgoblin unifies a university—for example, Ronald Reagan in California or a legislator named Broyles at Chicago twenty-five years ago.

Communication is a magic word in much current discussion of universities (of everything else, for that matter). If everybody knew everything about everybody and everything every minute, then sweetness, light, and unity would prevail, it is widely implied. Now there are, of course, advantages to communication; but as far as campus unity is concerned, communication is a will-o'-the-wisp. Indeed, beyond a certain point communication does more harm than good—by distracting people, by conveying inaccurate information because both the messages sent and the receivers' attention are limited, and by calling people's attention to things that displease them: a colleague's "charlatanry," administrative redtape, architectural monstrosities, misuse of money that could better support one's own work, and so on.

The important problem of communication, as far as campus unity is concerned, is to get it understood that not everybody needs or is entitled to know everything, that a great deal of division of labor and specialization of function must be accepted, and that not even administrators are obligated to explain themselves on demand, any time, at any length. If that were understood and accepted, the flow of information would increase. Under present circumstances, an inhibitory effect on open communication arises from the possibility of having to justify something interminably and repeatedly to people who lack the background to understand it and will not believe that they might have to accept something they do not understand, or understand and do not like.

What should, and largely does, unite the members of a university is not information and ideas held in common, not understanding and respect for one another's persons, work, and purposes, not common interests in the institutional, organizational, and physical aspects of the university, but the ethical and aesthetic values of science, scholarship, and the intellectual life. "The process of seeking knowledge is, in a great university, a way of life, with ethical ideals as lofty and aesthetic values as inspiring as exist in any aspect of our culture."[12]

Eric Ashby has put it well:

> The discipline of scholarship carries its own ethical values: . . . reverence for truth, with the recognition, which generates humility, that all truth may be contaminated by error; equality, for any scholar, however junior, who advances knowledge has his place in the guild of learning; internationalism, for it is immaterial whether a scholar's theory is upset by one of his countrymen or by an enemy, by a black man or a yellow man, by a Christian or a Muslim—the theory is upset all the same. Moral authority in universities, therefore, can be an authority which avoids dogma and which lays down the pragmatic conditions under which scholarship can be pursued. And what is valid for scholarship is valid for all rational decision-making. Arrogance, insincerity, prejudice, intolerance, failure to ascertain the facts: these are incompatible with intellectual health, whether in research, or politics, or commerce. . . .
>
> What really unites members of the academic profession is not an interest in one another's scholarship; it is our common participation in the mechanism of intellectual heredity: we are the analogues of chromosomes in physical heredity. Our duty is to perpetuate the stability of tradition coupled with the potential for changing tradition; to transmit a corpus of orthodoxy coupled with a technique for constructive dissent from orthodoxy.[13]

The central purpose which binds us all to the university, however disparate our personal tastes, interests, methods, and ideals, was described by Edward Levi:

> Universities and colleges have kept alive the tradition of the life of the mind. They have continued the traditions of culture and rediscovered cultures which had died. They have inculcated

an appreciation for the works of the mind, developed the skills of the intellect, emphasized the continuing need for free inquiry and discussion, the importance of scientific discovery, the need to understand the non-rational. Thus they have stood for the concept of the wholeness of knowledge, for the morality of that intellectual criticism which is so difficult because it is self-criticism, requiring the admission of error. They have helped to create a thoughtfulness about values. They have held to the conception that these skills, this appreciation, this examination of values, this way of inquiry are the possession of the freeman to be acquired through education.[14]

Thus, the force binding universities together is dedication to moral, ethical, and aesthetic ideals that lie at the very heart of what is finest, noblest, and most virtuous in our civilization. For four hundred years these ideals have been preserved against repeated assaults by religions, by governments, and by zealots. To preserve them, many men have laid down their lives, including no doubt brothers, husbands, fathers, sons, colleagues, and friends of many readers of this essay. Should these ideals fall, humanity's finest achievements, loftiest aspirations, and greatest hopes will have been lost for centuries, perhaps millennia. That is why the actions of some faculties during the Great Campus Craze of the Sixties wounded universities so deeply; they attacked the moral fiber that binds the university together and left bitter, ineradicable scars. As a courageous group of Chicago faculty said at the time: ". . . the ugliest image in history is the closing of the universities."[15] There can scarcely be a more immoral action; advocacy of it by some faculty was as near a mortal blow as universities are likely to survive. That such despicable actions should never again occur is the greatest challenge to the governance of universities.[16]

REFERENCES

1. Lloyd H. Elliott, "Changing Internal Structures: The Relevance of Democracy," in *The Future Academic Community*, ed. John Caffrey (Washington, D.C.: American Council on Education, 1969), p. 50.
2. "Report of the Committee on the Criteria of Academic Appointment," *University of Chicago Record*, December 17, 1970, pp. 3-4.
3. W. Allen Wallis, "Centripetal and Centifugal Forces in University Organization," *Dædalus* (Fall 1964), pp. 1072-1073.
4. Edward Shils, "The Hole in the Centre: University Government in the United States," *Minerva*, vol. 8, no. 1 (January 1970), pp. 3-7.
5. *Ibid.*
6. Anon, "Campus Revolt: California's Balance-Sheet," *Encounter*, vol. 35, no. 6 (December 1970), pp. 86-87.
7. The figure is adapted from one Edgar Z. Friedenberg employed twenty years ago or more, when railroads were used more commonly than airlines.
8. Preble Stolz, "Governance of Universities I," *Dædalus* (Fall 1969), p. 1060.
9. Stephen Spender, *The Year of the Young Rebels*, quoted in a review by Henry D. Reck, *The American Scholar* (Autumn 1969), pp. 725-6. Spender actually refers only to "a busy-body type of student."
10. Robert Nisbet, "The Restoration of Academic Authority," *Wall Street Journal*, August 19, 1970.
11. Edward H. Levi, *Point of View* (Chicago: University of Chicago Press, 1969), p. 161.
12. W. Allen Wallis, "The Importance of Error," *University of Chicago Magazine* (November 1962), p. 16.
13. Eric Ashby, "The Academic Profession," *Minerva*, vol. 8, no. 1 (January 1970), pp. 98-99.

14. Edward H. Levi, *Point of View,* p. 69.

15. R. Stephen Berry, Sidney Davidson, John Hope Franklin, Jacob W. Getzels, Julian R. Goldsmith, Harry Kalven, Jr., and Theodore W. Schultz, unpublished memorandum to members of the University faculties, University of Chicago, May 13, 1970, p. 2.

16. This essay is the second of three Walgreen Lectures at the University of Chicago and was delivered January 20, 1971. Minor alterations have been made in this version.

PATRICK E. MCCARTHY

Higher Education: Expansion Without Growth

ALTHOUGH PUBLIC EDUCATION in the United States today is generally taken for granted as a right for all who qualify, it has clearly developed within the context of a broader philosophy of social organization, structure, and service. Since the end of World War II, the United States has enjoyed a system of higher education which can be viewed as essentially experimental. This system departs both in size and in scope from any model that the United States had developed prior to World War II. It has been clearly operating on the unproved thesis that if some form of traditional higher education is beneficial for a small portion of the population, then large systems of this form of traditional higher education are also beneficial for large portions of the population. Rising doubts about its universal application have caused this premise to be reviewed strenuously. In addition, the origins of this experimental system have been largely external to the educational establishment, and therefore not subject to the rigorous critical internal review that arises from investments that stem from internal aspirations. As some of its characteristics will indicate, the lack of clarity in the original thesis has produced as many unintended consequences as those intended by the forces supporting this major social activity.

In describing the development and growth of this system, several of its major features will be highlighted: growth of the educational system without expansion; the introduction and consequences of new clients in the educational system; growth of the national system of education as a part of general growth of public services; and the prospects for future expansion in higher education.

Growth Without Expansion

The United States higher education system, if viewed in historical perspective, entered its experimental phase at the end of World War II. However, this phase is now drawing to a close both because of diminishing enrollments and because of scarcity of funds. During the development of the experiment, the nation's higher education institutions and the system as a whole underwent massive growth. In contrast to this massive increase in higher education enrollments, a comparable advance in design, development, and expansion of education services at the institutional level was not accomplished. New institutions sprang up like dandelions on a spring lawn. New students, pushed by the delayed aspirations of the Great Depression and the recent war, swelled the number of ongoing students attending institutions of higher education after high-school graduation from the 2 million attending at the end of the war to approximately 8.5 million students at the present time. It could be argued that the growth in higher education was as much a manifestation of the general trend of extending social services to a broader and broader cross-section of the American public, as it was a particular trend toward an extension of educational goods and services for purely educational purposes.

New Clients

Student dissatisfaction with the existing system, the change in the birth rate, and the change in the characteristics of the population attending the institutions are all factors that are causing a leveling off, and finally a total halting, of the growth in the numbers of students from the conventional age cohorts. Although predictions of future population trends are generally unreliable, the recent decline in the birth rate indicates that the 23 million eighteen-to-twenty-four-year-olds present in the United States in 1970 will grow to only 28 million eighteen-to-twenty-four-year-olds in the year 2000. If the new access developed during the period of growth in enrollment is to return full benefits both to the students now attending and to the potential students waiting in the wings, then higher education is at the beginning of another period of expansion. However, this period of expansion cannot depend solely upon the eighteen-to-twenty-four-year-old population for its enrollment.

Growth of the Social Service System

It is important to understand this great educational experiment and to evaluate it properly by examining the growth and the development of the threads of social and economic change as they were spun into the yarn of institutional and systemic development, because the characteristics of the system itself may represent a deterrent to expansion as the perceived needs for flexibility overcome the claims of the public for accountability. These threads, when traced back over the twentieth century, lead to a massive demand for increased social services that have been expanded during the past few scattered periods of peace and prosperity. In spite of the fact that these public services have not been constantly on the increase, because they have been interrupted by national calamities such as wars, depressions, and recessions, one can observe an upward shift in both the variety and the amount of large-scale public services that have been both demanded and delivered in almost every area of human activity. As was stated earlier, an important characteristic of both the demand and the delivery has been an expansion of the services to a broader cross-section of the public through a variety of both public and private agencies. Thus the development of increased access to higher education parallels general increased access for a broad cross-section of the public to other social programs, and is not so unique a set of developments as appears at first glance.

The expansion of social service systems is found at each level of governmental organization in the United States. It occurred first at the federal level, through changes in the interpretation of the Constitution and through administrative changes in federal regulations, and shifted next to the cities and towns, particularly at the end of the Great Depression, through legislation relating to public housing. The trend also further shifted the burden for delivery of social services to a partnership among the cities, towns, and the federal government with, for example, the development of the postwar housing and redevelopment legislation. Finally the burden was shifted to the states, through the state development of programs in health, education, and welfare. Significant amounts of money flowed from the various governmental agencies to fulfill the demand for services that had been encouraged, promoted, or developed over the past century and a half. In the case of education in particular, money was made available for public purpose rather than for individual and purely academic purposes. Such programs as the G.I. Bill, National Defense Loans, and the National Science Foundation Grants are good illustrations of large-scale external funding. An analysis of the use and implications of large-scale funding for higher education was never undertaken. In place of explicit evaluation there emerged both a general demand for a better system of accountability, arising from the political implications of massive public financing, and an organizational network to provide that accountability. However, education was not alone in its rapid growth both in the use of public funds and in the development of large-scale public agencies to carry out its purposes. For instance, the growth of state welfare agencies, state housing programs, and national defense programs are examples of the rapid growth of public services in other agencies. Education was not alone in its need to be accountable for the expenditures of public funds. For example, most notable among the additional state funding patterns was the shift of the welfare programs from the cities and towns to the states, and consequently a shift in the sharing of the monetary burden associated with the welfare programs coupled with the associated administrative accountability. At the federal level, program planning and management information systems grew up in the defense and the transportation agencies, as an answer to the demand for accountability associated with large-scale growth.

The development of public aspirations for social services may be broadly outlined by examining the stated aspirations of men like Samuel Gompers, Norman Thomas, Franklin Delano Roosevelt, Harry Truman, John Kennedy, and Lyndon Johnson. In examining a consistent thread in these philosophies one can construct a series of increased public demands for equality of access to a range of services that formerly were not accessible to a broad cross-section of the general population. These demands included work and work opportunity, guarantees of public transportation and social security, and finally guarantees of higher levels of support through health, education, and welfare programs.

It should be parenthetically observed that the role of the state, as a social service delivery agent portrayed by the expanded budget, has not as yet been politically digested as an appropriate one by either the politicians or the general public. Therefore, despite the monetary scale of the public service operation, both the planning and the political mechanism for dealing with the significant administrative and philosophical problems of this new role remain seriously underdeveloped. In short, the concept of states acting as large-scale public service agencies is not as yet good politics. However, most state governments now do perform as large-scale public service delivery agents. One aspect of the responsibility that accompanies the sovereign power provided for state governments is their responsibility for carrying out those activities which are demanded by the public and which cannot be delivered by any other level of government with the sensitivity and the efficiency necessary to make them appropriate functions of other levels of government.

Prior to World War II, public and private institutions of higher education moved in totally separate orbits. With the concentration on expanded access, national attitudes shifted to a point at which both public and private institutions were viewed as members of a single system. Such landmark legislation as the G.I. Bill did not discriminate between them and thus foreshadowed changes in federal and state attitudes toward large-scale higher education. A concept of pluralism has emerged from these new attitudes that places a high value on choice as well as on access, thereby producing in recent years an initiative for public financial support for both students and institutions in the private sector.

The whole question of pluralism is important to examine. It is significant both to the institutions and to the individual, and its impact on the division of public funds and on the politics of higher education are by-products of growth stemming from the availability of funds that are external to the institutions. Some questions that are raised by pluralism concern tuition levels, scholarship programs, capital outlay budgets, and special methods of acquiring public access to educational services. Others have to do with the impact of the educational product on both the general public and the business and industrial communities which consume the finished product of the higher education system. These latter questions remain vague, but they hold the greatest promise for new expansion, as will be discussed later.

The individuals themselves who pass through today's higher educational system have received educational experiences not unlike those that were received before World War II. The educational system that existed before the war was designed to fulfill the aspirations of the middle-income population with modifications for the very talented. Increasingly, as educational barriers were removed for the lower-income students, for those who were in need of career support as well as individual improvement, dissatisfactions emerged with respect to the job that was being performed by the educational establishment. It therefore followed that the demand for economic returns of higher education, coupled with the career linkages between it and the occupational world, began to emerge as much more significant justifications for higher education's increasing demand on the public purse. These new attitudes are in direct contrast with education for education's sake or aspirations for personal improvement that were much more the norm before World War II, and are potent forces for change.

As the mix in enrollment among the low income, the rich, and the middle income has changed—and it has changed markedly, including more lower-income students, broader ranges of age groups, and many new part-time students—these new students have had a major impact on all parts of the higher education system. New students have caused the education structure to change its direction and even in some cases to become directionless. In these cases the system has become an insatiable monster, shaped in an unharnessable form, that will not permit the answering of any student's needs. In addition, pockets of unplanned growth also render accountability difficult. Another demand was for access not only to the institutions but also to the institutions' structures for management. The new students appeared to believe that both they and their sponsors needed to have access to the governance structure if they were to have impact on the design of the educational product itself. In some cases their demands resulted in open confrontation, in other cases a quiet transmittal of the aspirations of the new students gradually changed the institutions. The importance of access to the governance structure as a way of changing the design of the system should not be underestimated, because it clearly represents an avenue to new inspiration.

The community college movement exemplifies the characteristics of this latter development. Having had its greatest growth since the late fifties, it is a very good illustration of the modifications in the higher education system which stem from the introduction of new clients. Community colleges, as they were established with generalized charges, promised access particularly with respect to the financial barriers that stood in the way of students attending college and also with respect to the preparation barriers that traditionally impeded certain higher education aspirants.

The unique response of the community colleges has taken several different forms, but basically it has developed two primary streams to provide alternative directions. The first, which can be described as the second chance stream, offers the first two years of a conventional undergraduate education in a geographical location and at a financial cost that make it more available to a broader cross-section of the public. The second is an occupation-career-education package which addresses the career aspirations of its new public. Certificates and special career-upgrading programs followed rapidly after the two-stream design of the community college system and have made this education expansion a new force which in turn creates its own continuing market. The certificates and new modules of educational experience are usually shorter in duration than the two years required to complete an Associate degree, and provide a flexible connection to the job market for both training and career-upgrading opportunities that were not generally offered by the earlier, traditional higher education institutions. This flexibility recognizes some of the implications of rapid technological change and provides a means of accommodating to it.

It is not strange that a contest has developed between the community colleges with their multiple-aspiration system and the vocational-technical schools with their heavy emphasis on career education. It is also not surprising that the contest that has developed at that level has produced implications on the national scene that have eventually resulted in the special provisions for state-wide planning commissions that first appeared in the 1972 federal higher education amendments.[1]

Another indicator of the change in the educational delivery system that has resulted from the introduction of new clients is evident when one recognizes that the average age of the community college student has progressively increased from the traditional eighteen-to-twenty-four-year-old age group to encompass older age cohorts. Thus the aspirations for large-scale public services which produced the parallel development of massive higher education have produced not only the security of social mobility that is represented by educational opportunity for young people, but also the security of social mobility for other age groups with opportunities for lifelong learning, career upgrading, and retraining.

However, the community colleges were only a portion of the movement toward systemic development. There were other manifestations of this relationship between new clients and new institutions that should be mentioned and analyzed when one is considering the future development of a national higher education system. Universities across the nation also responded in a dramatic fashion to the developments of the 1960s. They developed different approaches to access not necessarily sensitive to traditional academic preparation, but more sensitive to career and lifelong work aspirations. This was accomplished through the design and the development of a much more comprehensive system of graduate education, including teacher education programs, and five-year and professional degree programs. From the early 1960s to the 1970s, graduate education tripled its enrollment and scope. Programs that had not been foreseen by the previous generation appeared, gained academic acceptance, and some even disappeared.

Expansion Without Growth

The period of growth without expansion is over. The next twenty-five years are likely to see very little increase in enrollments, particularly of the age cohort that enters college directly from high school. However, the mission to expand the system to meet more nearly the pluralistic aspirations of a very broad cross-section of the general public still remains. If the previous twenty to twenty-five years can accurately bear the title of growth without expansion, the next twenty-five years may appropriately bear the title of expansion without growth. This expansion will focus upon increased opportunity rather than larger numbers of students.

One of the highest priorities on the postsecondary education agenda for the next quarter century is the redesign of this much larger system. Despite the fact that we have developed the tools to carry out educational activities in an environment in which the paradox of freedom and accountability needed to be overcome, these tools may have to be re-examined. The creation of independent state boards has focused upon a workable environment of accountability through the development of state-wide planning and standardization. However, given the significance of innovation and flexibility as they relate to the problem of improved opportunity, the role of the multilevel coordinating and governance system must be examined very carefully. It is conceivable that the focus will shift from the state-wide system back to the institution as the benefits of flexibility come to outweigh the benefits of accountability. If growth in enrollment is to be replaced by expansion of opportunity and new combinations of programs, and if this activity is carried out best in an environment of flexibility and innovation at the institutional and classroom level, then it may be that the public interest may gain greater benefit from the withering away of the strong central governing boards and the refinement of coordinating mechanisms for the accountability functions.

Replacement of the central governing function with a system of incentives at the institutional level may provide improved means for innovation and the articulation of the pluralistic needs of the broader cross-section of the public that promises to be the new education clients. These incentives need not come entirely from the government, but may well be offered by business and industry, particularly as the educational world is able to serve better these broader publics. It is quite possible that a system of dual entrance into employment and education that would take place at the beginning of one's education rather than upon graduation might very well hold a greater incentive for change for both the student and the institution. Or stated another way, simultaneous examination of the entrance requirements into employment and education and the sharing of the design of these requirements by both industry and education may very well offer great benefits to the students, the institutions, and industry.

A second problem of the future remains that of money. Historically, higher education has been financed by a number of different methods. It has collected endowments and fees from rich students and their families; it has moved over into the public arena and collected subsidies from the public coffers; and it has returned to the collection of fees from the high-income students and from the highly subsidized low-income students, this last move leaving the middle-income student stranded. Such shifts in financing arrangements hold great danger for the private institutions in the price-sensitive enterprise of higher education, and do not provide consistent approaches to the financing problem. In the future higher education must find and use monies to fulfill the nation's total aspirations for innovations and development, which seem to be moving in the direction of a kind of universal higher education. Some possibilities for the new model of higher education can come from the development of new partnerships between higher education institutions and other agencies both public and private. These partnerships promise even greater changes both for the consumer of the educational product, the graduates, and for the producers of the educational product, the institutions. The first whisperings of the new configurations of higher education cooperation can be seen in the consortia that have developed voluntarily around the country, first to buy lightbulbs, then to exchange student credits, and finally to exchange students.

Additionally, higher education must face demands for better performance in the areas of occupation and career training, and it must offer these benefits over the entire lifetime of its prospective students. Both the graduate and the employer can gain great benefit from lifelong training opportunities, particularly with respect to career articulation, general career support and multiple job changes. For this truly to develop to its fullest potential, several changes must take place. The governance structure, which represents a barrier, must be given careful attention. If institutional and noninstitutional resources are to be better connected to both the career benefit for the student and the operational benefit for industry and government, then shared governance is probably on the horizon. Such changes in governance would change the role of the traditional professor, and in some cases it might even change the location of the educational activity from the classroom to a more action-oriented setting. Large-scale educational services are already being developed by the giant corporations to train and retrain their own personnel. The vitality of higher education and the interchangeability of these corporate educational experiences could be vastly expanded if a symbiotic relationship could be worked out between education and industry. Such a set of changes clearly should not eliminate the traditional educational form or blot out all that was good in the past and replace it with something that is totally new and untried. The careful development of such new relationships with business and industry could perhaps help solve some of the financial dilemmas faced by the traditional configuration of higher education institutions.

At present, business and government operate a closed educational system to train and retrain higher education graduates at an annual expense of many billions of dollars. Such training both by design and by happenstance retards the general job interchangeability benefits that permit graduates to seek cross-industrial employment enjoyed by graduates of institutions that grant degrees. In addition the lack of direct connection with established educational institutions, with the exception of some business schools, dampens the opportunities for full development of possible supplemental relationships among business, government, and education. Government and industry are also running separate and unconnected educational enterprises. It is not suggested that all institutions become training grounds for business, government, and industry, but rather that some institutions offer training and educational experiences that are more directly related to career and job expectations. Some of the pioneering work that has been done at the community college level with new modules in education can conceivably be useful at all levels of education if greater attention is paid to career and job expectations. However, the immense capacity of an IBM or a Xerox represents a very attractive supplement to the resources currently available.

One might ask what incentives are available to encourage Xerox or IBM to open its self-funded educational activities when they are thriving as closed systems. One possible answer might simply be the motive of profit. One of the difficult problems associated with profit-making educational enterprises is the problem of the protection of the public interest. This is essentially a consumer protection problem. In the traditional educational enterprise, the nonprofit character of higher education, with its board of trustees, in theory avoids the potential conflict between the drive for profit and the demand for excellence and academic freedom. Part of the problem stems from the difficulty of policing day-to-day educational delivery in a profit situation and presenting the value of the educational experience in a format that permits the unsophisticated student to know the good from the bad. However, the potential for large-scale funding from profit-making educational systems is of such great promise that this source needs to be opened up. It might, for example, be useful to develop a new kind of educational charter which the state could make available to profit-making institutions under special conditions. Such a charter would permit and encourage profit-making institutions of higher education, but would prohibit them from charging the individual student any fees or costs. These institutions would rather be required to sell their services only to organized incorporated establishments of business, industry, or government. Such a system would shift the consumer-protection problem from innocent individuals directly to the more sophisticated consumers of the finished education product.

Summary

An examination of the last twenty-five years reveals a national system of higher education that has increased access for many new students. It also reveals a system with unmet demands for expansive new educational services and a system that was not fully conscious of its need to refine, to redesign, and to redevelop both the form and the process of higher education. The next twenty-five years will require integration of the special needs of both the students and the larger environment of the business, industry, and government communities within the higher education system.

The financing of the phase of expansion without growth does not promise to be any less expensive than the financing of growth without expansion. Large-scale new financial resources are needed on a scale that will permit the retooling and redesigning of the existing educational enterprise to produce both improved general and specific education opportunities. It is very important to evaluate carefully the recent educational experiment so that education, industry, and government may design new institutions and relationships. This design will result in important horizontal shifts of money which may provide some of the funds that will be needed for the new higher education experiment. It is unlikely, however, that such shifts in the existing available money supply will produce all that is needed for future development. Therefore, new partnerships in a financial sense may be necessary to achieve the funding levels that will be required by such an expanded undertaking.

In the environment of scarce economic resources, nothing should be allowed to be wasted. Waste stemming from redundancy and unnecessary duplication is indeed as much a part of the economic problem of education as are new sources of money. With that in mind, careful consideration of new relationships both within the established educational enterprise and among education, government, and industry must be forthcoming. Such attention is bound to reveal opportunities for horizontal shifts of effort from traditional and nontraditional operators of educational institutions to agencies of industrial and governmental production.

In closing, it should be noted that a change in growth in enrollments, despite the fact that we have used enrollment-driven budget-making systems, is not an entirely bad omen. It offers an opportunity to meet some of the promises for lifelong education, for full career development through an existing educational support system; and, as a result, for a greater utilization of the disproportionate amount of the national resources that are presently devoted and controlled totally by the educational establishment.

REFERENCE

1. Education Amendments of 1972 (P.L. 92–318), Section 1202.

JOHN G. KEMENY

The University in Steady State

FOR THE HUNDRED-YEAR period 1870 to 1970, enrollment in higher education in the United States increased at an average rate of 5 percent per year. The number of institutions of higher education also increased, but not nearly so fast as total enrollment. Even allowing for the increased number of schools, enrollment per institution has been rising at a rate of more than 3 percent per year. This steady growth in size has played a major role in shaping the policies and practices of colleges and universities. In the next two decades, enrollments will level off and possibly decline; higher education is entering a "steady state" that will have a significant impact on the future of higher education.

The total population of the nation increased sharply during the last century. There has also been a steady increase in the percentage of high-school graduates entering college. The number of eighteen-year-olds will peak by 1980 and then decline in the following decade, while the percentage of high-school graduates going on to four-year colleges and universities has already stopped increasing. There is general agreement that there will be little growth in enrollments in the remainder of this decade and a noticeable decline in the following decade.

While rapid expansion can cause many difficulties, as witnessed by the growth of some of our state universities, a *modest* rate of growth helps to overcome a wide variety of problems. Just as our national economy has relied on steady growth in the gross national product, our institutions of higher education have in past decades been able to count on expansion as one means of solving their problems. This article will consider some problems caused by lack of growth and discuss changes in policy that steady state will require of our educational institutions.

Problems Caused by Lack of Growth

The last hundred years have seen an extraordinary expansion of the sum total of human knowledge. This has resulted in a vast expansion of academic curricula. Larger curricula require larger, more diversified faculties, which can be justified only by a larger student body. A century ago the average enrollment for colleges and universities was a hundred students. The figure now is in excess of three thousand. A century ago a handful of faculty members could teach the entire curriculum, while today a faculty of one hundred can barely do justice to the many facets of human knowledge, even on the undergraduate level. Though smaller institutions can be successful by making a careful selection of what they offer their students, a university wishing to give a broad range of graduate programs requires a large faculty.

Human knowledge will continue to expand at an explosive rate, putting continuing pressure on colleges and universities to keep enlarging the curriculum.

Steady state, however, requires that this be achieved without increasing the size of the faculty. Senior faculty members have usually been tolerant of new faculty members' desires to introduce "modern" topics and new specialities. They knew that expanding enrollments would assure sufficient clienteles for both old and new courses. As retirements occurred, some topics were dropped from the curriculum or two courses were condensed into one. But each year the total number of courses increased.

Biology today is dramatically different from pre-World War II biology. Entire new fields have made their appearance in the undergraduate curriculum—for example, environmental science, computer science, and black studies. Traditional departments have complained that these additions have slowed their own expansion, but they have usually not been faced with an actual cut in size. Once we accept that for the next two decades college faculties will not increase in size, we must also realize that competition will become much more direct and threatening. We have witnessed dramatic shifts in student interests as well. The more institutions get locked into fixed-size departments, the more difficult it is to respond to shifts in enrollment.

Departments need a steady flow of new blood. While a good faculty member will "keep up with his field" all his life, this is usually limited to keeping up with developments in a speciality. Each decade students leave our graduate schools with stronger and broader training, particularly in the sciences. Steady state will make it increasingly difficult for colleges and universities to maintain a flow of young blood, and therefore departments may be threatened with intellectual stagnation. One can cite many examples of institutions which went through a period of no growth, where faculty lost its vitality and eventually found itself out of touch with new developments.

A similar problem exists for physical facilities. The scientific laboratory of today bears little resemblance to that of fifty years ago. Hundreds of colleges have had to go through the exercise of converting an obsolete science laboratory into a classroom building and building a brand new science center. As long as enrollments (and therefore revenues) increased, institutions could justify the building of new facilities such as computer centers, libraries, art centers, or audio-visual centers. But it is difficult to see how they will pay for new facilities when enrollments and income level off. For example, growth of libraries is dictated more by the expansion of human knowledge than by the enrollment on campus. In steady state, how will institutions keep their university libraries up to date, add tens of thousands of new volumes annually, and build new buildings to store the books, without having the library budget become disproportionately large?

All of these problems could be solved without growth of enrollments if available funds continued to grow. But higher education has been experiencing severe financial strains, and it is yet to enter the steady state. When it is difficult to assure a stable level of per-student income (in real money), the problems caused by lack of growth become acute.

There is a strong current in American thought that "larger is better." University administrators, state legislators, and alumni could take pride in the visible growth of their institutions. Quality is often hard to judge, but seeing an institution grow from five to ten thousand students and seeing many ultra-modern facilities on campus instill a feeling of pride. How will institutions continue to have a significant sense of progress and achievement in the absence of expansion? Will they be able to refocus their motivation from increased quantity to improved quality? These are the questions that the university must answer in steady state.

Tenure Ratio

I will illustrate the seriousness of a steady-state situation by considering a simple model for the proportion of faculty on tenure. This model will approximately describe Dartmouth College's experience. While the actual percentages used in the model would vary under different assumptions, the dramatic effect produced by lack of growth would be similar under any assumptions.

Faculty members at Dartmouth serve a six-year probationary period, as assistant professors, before a tenure decision is made. If tenure is conferred, they serve until the mandatory retirement age of sixty-five, for an average of thirty years. Some attrition does occur in the tenure ranks due either to death or to a faculty member's decision to accept a position at another institution. At Dartmouth College this attrition has averaged 2 percent per year. For simplicity, I will assume that all assistant professors serve out their full probationary period and leave immediately if they do not receive tenure. I will also assume that the 2 percent attrition occurs in all age brackets in the tenure ranks. I wish to explore, under three different growth assumptions, the relationship between the probability of reaching tenure—that is, the fraction of probationers who are eventually granted tenure—and the percentage of the total faculty that is on tenure.

I will first consider an institution that is undergoing a period of "rapid growth" of 5 percent per year. Such an institution doubles in size in fourteen years, not unlike some state institutions during the recent past. Next I will consider "slow growth" of 2 percent per year, which is what Dartmouth has experienced in the twentieth century. Finally, I will consider "no growth," in which the size of the faculty remains fixed. In each case I will be concerned with the relation between probability of tenure and the tenure ratio "in equilibrium." For the no-growth model, this means that the number of faculty members with a given number of years of service does not change from year to year. When growth is assumed, equilibrium will mean that the number in each age-group will increase by precisely the same percentage.

It should be pointed out that the assumption of equilibrium is unrealistic for most institutions in the United States. The rapid expansion during recent years has resulted in more tenure faculty members in the younger age brackets than would be true in equilibrium. Therefore, there will be fewer than normal retirements coming up in the near future. As a result, the problem will be even more severe for the next decade or so.

The assumptions described above lead to a set of algebraic equations that are simple to solve. The results are presented in Table 1. For each growth assumption, the higher the probability of tenure, the higher the proportion of the faculty on tenure, an intuitively obvious result. But the tenure ratios vary dramatically with different growth assumptions. In reading this table it is helpful to recall that various professional educational groups have recommended tenure ratios of 1/2 to 2/3.

For example, if an institution wants to provide a better than even chance of reaching tenure, say a probability of 55 percent, then under rapid growth 50 percent of the faculty will be on tenure, under slow growth 60 percent, and under no growth almost 68 percent. Thus, during a period of rapid expansion, a 55 percent

Table 1
Ratio of Tenure to Growth.

Tenure Probability	*Rapid Growth*	*Slow Growth*	*No Growth*
30%	35.5%	45.4%	53.2%
35%	39.1%	49.2%	57.0%
40%	42.3%	52.6%	60.2%
45%	45.2%	55.5%	63.0%
50%	47.9%	58.1%	65.4%
55%	50.2%	60.4%	67.6%
60%	52.4%	62.4%	69.4%
70%	56.2%	66.0%	72.6%
80%	59.5%	68.9%	75.2%
100%	67.7%	73.5%	79.1%

probability produces a highly favorable tenure ratio; even under slow growth, it produces an acceptable tenure ratio; but if there is steady state, the tenure ratio becomes dangerously high. We may also read the table in another manner. Suppose that an institution decides to limit the fraction of faculty on tenure to 60 percent. Under rapid growth, that restriction provides an 80 percent chance for obtaining tenure; under slow growth, a 55 percent chance; but if there is no growth, the probability of reaching tenure drops to 40 percent.

In steady state we can therefore expect that in order to provide a 50 percent chance for tenure, institutions will experience tenure ratios of 65 percent or higher. And most institutions are presently out of equilibrium—that is, they have relatively few faculty members near retirement. Thus, the tenure ratio will reach a much higher level before it settles down to its equilibrium value. Secondly, many institutions recruit tenure members directly from the outside. Some institutions do this as a matter of principle, others do it when special opportunities arise or when there are special needs to strengthen a field. If the recruitment from outside is enough to make up for normal attrition, then at a 60 percent tenure ratio the probability of reaching tenure drops to 30 percent. This is why at some of the best-known institutions in the country the probability of an assistant professor reaching tenure is 30 percent or less.

When I first entered academic life twenty-five years ago, a 50 percent chance of reaching tenure at a first-rate institution was considered good. This is why tenure ratios in the 50 to 60 percent range were quite common, and the institution had a great deal of flexibility. If one did not make it in the "major leagues," one still had an excellent chance of achieving tenure at a somewhat less famous institution. But since most institutions are now in steady state, and since the "minor leagues" have to provide a higher probability of tenure in order to attract faculty members, there are fewer opportunities for moving from one institution to another when tenure is denied. This has resulted in serious insecurity on the part of non-tenured faculty members. Given the stark facts of life, one can hardly blame them for agitating for better conditions.

What steps can an institution take in steady state to provide a reasonable chance for tenure and yet maintain flexibility? One important step is to do as little direct recruiting into the tenure ranks as possible. Secondly, it helps to have a number of faculty members who are not candidates for tenure. Major universities achieve this by the large-scale use of graduate students; however this practice can significantly lower the quality of instruction. A much more promising approach is to reserve a certain number of positions for visiting faculty members, either from other institutions or from outside the academic world. Short-term, specifically nonrenewable appointments are also helpful. While they carry no hope of tenure, they also avoid the stigma of the denial of tenure. Some institutions have been tempted to encourage a higher attrition in the tenure ranks, but the only humane way of achieving this is through an early retirement plan. This proposal will be considered later.

In Defense of Tenure

Criticism has always been leveled at the system of academic tenure. The new problems created by steady state are heating the debate. The criticisms come from two entirely different sources: from the world outside academia and from junior faculty members within universities. State legislators and alumni often argue that tenure protects the weak and the lazy. They also claim that the tenure system gives teachers a privilege that no other profession enjoys. Both arguments contain a grain of truth.

While it is true that gross incompetence or neglect of duty is cause for dismissing a tenured member of the faculty, in practice these grounds are practically never invoked by academic institutions. The process of breaking tenure is so painful, and the publicity so unfavorable, that most institutions prefer to allow a small percentage of their faculty to take unfair advantage of the system. It is important to know that at first-rate institutions this percentage is extremely small.

While other professions do not provide similar job protection, they also do not require a review process so rigorous as the tenure decision at a good academic institution. I would argue that the tenure review at Dartmouth is a more thorough and demanding process than any on-the-job screening in industry or in the professions. Those who pass the tenure review have demonstrated first-rate potential. The cases that give the tenure system a bad name are individuals who fail to live up to their full potential and not individuals who did not have the potential in the first place. I am convinced that outside academia it is much easier for mediocrity to get by.

I would also argue that while an industry or a law firm or a medical group practice does not provide legal tenure, it does provide *de facto* tenure. The probationary period may be longer, and is usually of indefinite length. It is the indefiniteness of the probationary period outside academia that allows someone with average performance to stay on sufficiently long to acquire *de facto* tenure. Complaints about business executives or law partners who do not carry their full weight seem to me to be as common as complaints about tenured faculty members who do less than their share of work.

A common practice in industry is to move an executive "laterally" into a less important job. This is more difficult to achieve in an academic institution. One occasionally finds that a below-average faculty member has exceptional administrative talent, but unfortunately it is much more common to find that the ablest faculty members make the best administrators. An industry whose executive payroll is a small fraction of the gross budget finds it much easier to carry unproductive executives as extras than a highly labor-intensive industry such as education.

The traditional defense of tenure is based on academic freedom. Freedom from political censorship is an essential ingredient of higher education. But there is an even more important sense of "academic freedom" that is often ignored. A tenured faculty member has the freedom to carry out new experiments in education and to strike out on unexplored avenues for research without having to fear loss of job. While departmental chairmen and deans have the power to determine salaries, as do industrial supervisors, they cannot threaten tenure faculty members with dismissal. This creates an atmosphere of freedom that is unique to academic institutions. I know of no other corporate structure where the professionals feel free, in open meetings, to criticize anything or everything about the institution--including the president. This may contribute to the rapid turnover in college presidencies, but it also invests academic institutions with a special vitality.

The attack on the tenure system by junior faculty members is of more recent origin. A generation ago young faculty members were convinced that they would reach tenure either at their present institution or at some other school. Therefore they looked forward to the job security that tenure would eventually provide. Now they fear that the tenure system will drive them out of academic life. As I have shown earlier, steady state reduces the chances of reaching tenure at a given institution. It also reduces the chances of finding a job at another institution. The fundamental fact is that there are not enough teaching positions in the United States to take care of all the college teachers being turned out by the graduate schools.

In a tight job market many colleges can now attract faculty with stronger qualifications than they were able to do in the past. Young faculty members therefore complain that they are being denied a long-term position at an institution by less qualified but tenured faculty members. Yet I know of no industry that will dismiss large numbers of long-time loyal employees to make room for the young, even if the young come with more impressive credentials. It may well be the case, particularly in some rapidly changing fields, that faculty members at age fifty-five contribute less than they did at age thirty-five. But to take the best years of a faculty member's life and then to let him go at a time when he is least marketable would be unconscionable.

Fears have been accentuated recently by the need for more rigorous planning to handle the problems of steady state. Numerical tenure quotas, or even loosely formulated numerical guidelines, are highly threatening to young faculty members. They fear that an impersonal system will let them go, no matter how fine a record they have, because of some arbitrary numerical restrictions. It is true that a small number of colleges with extremely severe financial problems have had to engage in large-scale dismissal of faculty, even of tenured faculty members. But it is my observation that what normally happens is a slow raising of expectations on the part of those who confer tenure. The situation is analogous to what has happened to the admissions process at Dartmouth. As the number of applicants keeps increasing, the admissions office has each year applied somewhat tougher criteria in choosing the freshman class. Students who ten years ago would easily have qualified for the freshman class are now rejected for admission. Similarly, as we attract a much higher percentage of strong assistant professors, faculty members who ten years ago could easily have qualified for tenure now fail to obtain it. In each case the "best" still make it, but neither the parents of a disappointed applicant nor a young faculty member denied tenure find much consolation in the notion that the institution will be much stronger as a result of this process.

Some have argued for a new class of positions which would not carry tenure, but which would allow reappointment on a non-tenured basis indefinitely. This proposal is dangerous. First of all, it would create second-class citizens among the senior faculty. Secondly, and more importantly, it could only make the present situation worse. The institution would be presented with a hopeless dilemma. If it took seriously the non-tenure status of this new category of faculty, eventually a significant number of them would have to go in order to make room for young faculty members who deserve tenure. This would mean dismissing faculty after ten, fifteen, or twenty years of service, at a time when it would be almost impossible for them to build an alternate career. If, as is much more likely, institutions would be reluctant to dismiss such faculty members in the future, they would have awarded *de facto* tenure without the rigorous review of a tenure decision.

The arguments finally come down to a plea that we fill a large portion of the tenure slots *now*, to help out young faculty in a terribly difficult job market. The result would, of course, be an impossible job market for the *next* generation of candidates. It would also mean that our institutions would give up a degree of flexibility without which they cannot survive.

Early Retirement

A solution frequently advanced to ease personnel pressures in steady state is early retirement. I strongly favor such a plan and have been responsible for introducing one at Dartmouth, but I favor early retirement for reasons other than those usually advanced.

There is an impression that if one could implement a good early retirement plan, the tenure problem would be significantly improved. This is not the case. In the table of tenure ratios we see that under no growth, with a 50 percent chance of reaching tenure, the tenure ratio would be 65.4 percent. If *all* faculty members were required to retire at age sixty-two rather than age sixty-five, this would reduce the tenure ratio to 63.7 percent. That change would be helpful, but hardly a solution to the whole problem. In addition, I see no way of making such an across-the-board change in the short run. First of all, it would create serious morale problems. Secondly, a tenured faculty member whose length of employment is arbitrarily reduced by three years could legitimately claim violation of tenure. Therefore, an early retirement plan will have to be voluntary, and thus it will have an even smaller effect than the figures above indicate.

I favor an early retirement plan because it can be helpful with other problems. Some senior faculty members express a desire to disengage before age sixty-five for a variety of reasons. A problem of health may be a contributing factor; or the faculty member may not have kept up sufficiently with his field, or he may simply be tired of teaching the same courses year after year. Some want to try a different kind of career later in life, usually at significantly lower compensation.

Of course, faculty members do have the option of voluntarily retiring early. But the financial penalty is prohibitive unless the individual has independent means. A faculty member electing to retire at age sixty-two rather than sixty-five faces all of the following financial penalties: Social Security benefits are reduced by 20 percent. His retirement fund will have three less years of growth before he starts drawing on the funds. He will also have a life expectancy three years longer which significantly reduces the annual amount his retirement fund yields. The combination of these factors typically results in a 25 percent reduction in income *for the rest of his life*. The challenge in designing an early retirement plan is to enable the faculty member to live decently until normal retirement age and to draw retirement income equal to, or not much smaller than, the income with which he would normally have retired. And this must be achieved without a prohibitive cost to the institution.

I believe that the "Flexible Retirement Options" just introduced at Dartmouth College solve these problems ingeniously. In a typical example, these options would work as follows: A faculty member decides at age sixty to elect a Flexible Retirement Option. He agrees that his salary for the next five years will be reduced to somewhere between 55 and 75 percent of his base salary, depending on his length of service. The institution's contribution to the retirement plan, however, would continue at the normal level, to assure that at age sixty-five he retires with full benefits. In exchange, his teaching obligation to the institution is reduced from five to two years. This clearly is a significant benefit to faculty members who elect it, since in a typical case (let us say at 70 percent of salary) the faculty member will receive the equivalent of three and a half years' full pay and five years' full fringe benefits in exchange for two years of teaching. With reduced family obligations at age sixty, he can live decently for the remaining five years, disengage from the institution early, and enjoy full retirement benefits. Furthermore, he has the additional option of teaching two years full time or teaching part time for a longer period. This makes it possible to avoid the shock of going from full-time work to no work at all after retirement, a shock that can be dangerous in some cases. There is also the possibility of earning additional income during the disengagement period, though if the total income of the faculty member exceeds his salary at the institution, we have provided for "splitting the difference."

How expensive is this generous option? In an ideal situation, the senior faculty member is replaced by an assistant professor at a significantly lower salary. Let us suppose that the faculty member earned $25,000 a year plus fringe benefits. Through the reduction of salary, let us say to 70 per cent, the institution would over five years save one and a half salaries, or $37,500. Fringe benefits continue at the full level. For three of those five years, however, one must pay for a replacement. If the faculty member is replaced by a junior member whose salary plus fringe benefits come to $15,000 a year, there is a replacement cost of $45,000 for a net cost to the institution of $7,500. This is an extremely moderate cost for an attractive option. While not all cases will work out so favorably as the one just described, we have convinced ourselves that the attractiveness of the option and the resulting improvement in morale justify the added cost.

A similar plan for administrators will be more costly, since one can rarely replace a senior administrator with a much junior one. But the improvement in morale should also be greater. Given the pyramidal structure of administrations, early retirement significantly improves the chances of junior officers for promotion.

Therefore I believe that a well-designed early retirement plan may be crucial in this steady-state period. While it will not change tenure ratios markedly, it can serve to solve a number of other morale problems.

Strategies for the Steady State

I should like to conclude by describing steps that institutions ought to take in steady state. Before doing so, I should point out that there is at least one area where lack of growth is an asset rather than a liability.

College endowments have to provide a high level of current support and at the same time experience sufficient growth to keep up with rising costs. During a period of steady institutional growth, the endowment must in addition keep up with expansion. For privately endowed institutions this has meant an ever-increasing need for new gifts. Similarly, state institutions have had to demand an ever-increasing percentage of the tax dollar. During steady state one of the pressures for increasing endowments or state revenues will disappear—namely, the need to finance the education of an increasing number of students. This is particularly fortunate at the present time when neither private endowments nor state revenues are keeping up with inflation. Once institutions work their way out of the presently severe fiscal crisis, and once the stock market recovers, some of the financial advantages of steady state will become apparent.

The major challenge of a steady-state period is to continue the vitality of the institution and to keep the curriculum up to date without increasing the size of the faculty. This requires changing the traditional strategy of "keeping the old and adding the new" to one where room for the new must be made by trimming the old. There were few incentives for such economies in the past, because there was always the hope that the larger curriculum would result in more staff for the department. Once departments become convinced that they cannot hope to increase the size of their staff, they will recognize that a proliferation in the curriculum will require heavier teaching loads for members of the department. This will provide strong motivation for keeping the total number of courses fixed.

The danger, of course, is that the majority of the tenured faculty will fight for the status quo and oppose important changes. Each time a new discipline is proposed for insertion into the curriculum, it is likely to be faced with the hostility of departments who fear a reduction in their staff. The only possible way out of such a dilemma is to establish a strong institution-wide decision-making machinery that will put the welfare of the university ahead of the welfare of any of its departments. This will go counter to the current philosophy of departmental autonomy.

Earl Cheit in "The New Depression in Higher Education—Two Years Later" finds a dramatic change in having central administrations play a more aggressive role. He speaks of colleges and universities becoming "managed institutions." He argues that traditionally the faculty controlled the curriculum, while the administration controlled the budget. Of course the two interacted, but in a period of ample revenues there was a *laissez-faire* attitude. Given a variety of financial crises, and the coming of steady state, administrations feel the need for much tighter planning. Many institutions have introduced modern management methods and quantitative as well as qualitative targets; five-year plans have become necessities.

The problem is analogous to that experienced in a typical family. During a period of affluence there is enough money for all the necessities and a great many luxuries. While some extravagances may be vetoed, tight budgets are not necessary, and there are few arguments. But if the family's finances take a significant turn for the worse, tight budgets become a necessity. It has often been observed that financial worries have been one of the main causes of friction in the family, because the family comes face to face with conflicting priorities. The "head of the family" will be tempted to become more dictatorial, and all kinds of jealousies will come to the surface. These same frictions can be observed these days in faculty meetings from coast to coast.

I see only one possible solution to this problem. Faculties must accept the need for tighter management of institutions, but they should insist on having a major voice in how priorities are determined. This calls for an institution-wide group dealing with budget and priorities. While the Board of Trustees must still retain the right to make the final decision, and the President must be given enough power to manage crises, neither the Board nor the President should act without a significant input from the faculty. The faculty must also recognize that large open meetings are the worst possible forum in which to debate priorities. It must be willing to delegate to its elected representatives the power to speak for the faculty. Most importantly, it must give up its right of continually second-guessing its representatives. Otherwise, the obvious outcome will be that all increases will be welcome and all cuts will be severely criticized.

If a combination of unfavorable economic developments makes a steady state intolerable, then colleges and universities will have to find a new clientele. There is no way of increasing the number of eighteen-year-olds (in less than eighteen years), nor do I see great hope for a higher percentage of high-school students entering our colleges and universities. I believe that any increase will occur in our two-year colleges and vocational schools, and probably rightly so. Therefore, the best hope for an increase in clientele is a serious engagement in continuing education. I firmly believe that our present pattern—twenty years of education followed by forty years of work without continuing education—is no longer tolerable. I therefore welcome pressures for colleges and universities to go out aggressively to attract adult students. But this will not have a significant impact so long as adult education is limited to an occasional course taken in the evening. Only when society recognizes that, given the pressures and rapid changes of modern civilization, those who work with their brains need significant periods of intellectual refreshment, will continuing education become a major factor in higher education.

The problems now facing higher education will be facing our entire nation in the near future. Our nation will soon have to realize that there are significant limits to growth. The transition from prosperity based on continual expansion to one of a steady state will be painful and will require major changes in our style of life. Since these problems have impacted upon our universities sooner, society would be wise to use our universities as laboratories for designing social organizations that can maintain their viability and vitality without continual growth.

SALLY AND RICHARD ZECKHAUSER

Encouraging Improved Performance in Higher Education

CARDINAL CUSHING COLLEGE died last year. New York University closed a campus. New College lost its private status. These are extreme manifestations of serious developments within higher education as a whole. If colleges and universities are to maintain the vigor of their intellectual leadership and the quality of their pedagogic pursuits, they had best undertake practical methods to deal with these developments.

A program to encourage improved performance would be a good way to begin. An institution undertaking such a program would be compelled to engage in the somewhat unfamiliar exercise of both deciding and describing precisely what it wants to accomplish, in other words, of formulating pursuable objectives. Perhaps even more important, it would have to organize itself to seek these objectives. To do this, it would have to create incentives to foster improved performance.[1]

Not everybody in higher education will greet this proposal with enthusiasm. Many will feel that it smacks of anti-intellectualism: attention to performance may be appropriate to General Motors; it is not generally assumed to be applicable to colleges and universities. Some will believe that such initiatives will only open the door to external or nonacademic control of their institutions, with academic freedom being the ultimate, if unintended, victim.

The dangers and drawbacks to an objectives-and-incentives policy are very real, but there are severe hazards to continuing in the old ways. Demands for accountability by higher education are being heard with increasing frequency. Fiscal pressures are exacting significant sacrifices from many institutions and individuals within them. There is a competition between the risks of change and those of the status quo. This suggests that any effort to encourage performance should be calibrated to achieve the greatest net improvement, as indicated by expected accomplishments minus attendant losses. A carefully gauged program to improve performance may conceivably help a college or university contend with some uncomfortable realities.

From the standpoint of many of its supporters, higher education may not have been accomplishing enough of the right things. Students have discovered that a college education may not prepare them for rewarding employment. Alumni have learned that even with generous support, students may tramp on, not cherish, revered values. Government policymakers have found that a multi-billion dollar research community cannot supply satisfactory answers to such pressing problems as poverty, energy, and managing the economy.

Why should supporter satisfaction be an issue now? In part, with the rapid changes within and outside higher education, many programs have been rendered out of date.[2] But the preeminent reason for paying attention to supporters' desires is simply dollars. The margin of survival for some colleges and universities has become perilously narrow. Many are having difficulty securing the funds for functioning effectively.

The major problem is not, as it is sometimes asserted, that levels of traditional support have been curtailed. Private donations to support higher education have never been greater. Actual federal outlays are increasing at a faster rate than at any time in the past five years. State expenditures continue their rapid expansion, and tuition dollars are growing as well.[3] The crisis-inducing factors are three: diminished student enrollment due to the reduction in the college-age population and the elimination of the draft; the rapid inflation in costs transmitted from the general economy; the plunge in the stockmarket that has seriously reduced endowments and forebodes dwindling contributions from nongovernmental donors. Higher education institutions have few weapons for combating any of these pressures. If these institutions are to maintain their vitality, one requirement is clear: they must secure more funds from their supporters.

The major supporters of higher education—governments, foundations and students (past, present, and future)—have a vast array of needs and desires, including, fortunately, the wish to keep higher education alive and well. Colleges and universities must select from among these needs those which they can most successfully and beneficially meet. This is not a call to accountability stemming from dissatisfaction with past performance. It is simply the recognition that higher education's years of affluence have run out.

Though colleges and universities are not in an enviable financial situation, neither are many of them on the very borderline of solvency. Some programs will be curtailed, some projects foresaken, some promotions foregone, but the major events in higher education will not be chronicled as obituaries. Institutions of higher education and the subunits within them, once they are well established, can survive remarkably trying circumstances. Indeed, a key problem in these times of scarce resources may be to find merciful means for curtailing the lives of some of them. The major benefits deriving from an improvement in performance will come not to the relatively small number of schools attempting to stave off bankruptcy, but rather to the many whose financial situation is simply less than prosperous. Its purpose lies in making a period of inevitable contraction as painless as possible by increasing funding beyond what would otherwise be available, by accomplishing more with what resources can be secured, and by assuring that the sacrifices that must be made are the least damaging.

When, in 1973, the Carnegie Commission ended its six-year labors, it settled on the following purposes for higher education: (1) "the education of the individual student and the provision of a constructive environment for developmental growth," (2) "advancing human capability in society at large," (3) "educational justice for the postsecondary age group," (4) "pure learning—supporting intellectual and artistic creativity," (5) "evaluation of society for self-renewal—through individual thought and persuasion."[4] It would be difficult to quarrel with these lofty aims (or comparable ones set forth by other blue ribbon panels), which serve admirably as vehicles for exhortation.

To perform more effectively, however, institutions of higher education are going to require objectives that they can pursue as well as those they can revere. The new United States Commissioner of Education, Dr. Terrell Bell, made the point bluntly: "Every key person in a school district or at a college should know what the objectives and performance priorities are before each academic year begins" (*New York*

Times, June 23, 1974). From this perspective, rhetorical phrases may be more of a hindrance than a help. They tend to create targets so broad that any well-intentioned program or institution can hardly fail to hit the mark. Hortatory objectives are difficult to pursue; they will be of little use in guiding performance.[5]

If objectives are to be pursuable, there must be ways to measure progress. The failure to develop adequate performance measures in the past does not necessarily reflect slack efforts or stunted imagination. The task is immensely difficult; it should not be approached as an exercise in precision. Many of the products of higher education are not readily susceptible to measurement. Others, such as a student's career development or a research finding, may require a lifetime or more to make their impacts evident. When, as is frequently the case, schools are unable to monitor precisely what they are seeking, they will have to accept a second-best possibility and investigate which observable surrogates will best do the job.

Through careful planning certain common errors can be avoided, such as measuring the wrong things. Colleges and universities are supposed to contribute something to their students, faculties, and society at large. Simply detailing what emerges from a particular school does not indicate how it is doing; it is essential to know what it started with, so that its contribution can be determined. For example, if test scores are used as one indicator of achievement, students' matriculating and final test scores should be compared. While this point may seem obvious, a large proportion of all the usual indicators of educational performance examines only one end of the pipeline.[6]

Another potential error, a mistake less of logic than of lassitude, is leaving out valued objectives simply because they cannot be easily measured. Given such omissions, no overall assessment of progress can be accurate. Stagnant situations may be allowed to persist, since excessive claims of achievement on omitted objectives cannot be evaluated. If a remedy is sought to this problem by making measured progress important, the converse problem of "teaching for the test" will arise: performance on the unmeasured attributes will be sacrificed to those that can be tallied. At a minimum, schools should attempt to develop procedures that register, at least approximately, gains and losses that elude precise measurement. In particularly intractable circumstances, rather than omit an objective, a few paragraphs of evaluation from experienced, impartial observers may be most acceptable. If such evaluations were collected on a regular basis, the series could give some indication of direction. Measures even this crude will provide helpful information if an institution of higher education seeks to bolster its performance.

It is particularly important that those objectives that cannot be appropriately quantified or readily put to a market test be identified and clearly delineated. If they were not protected this way, whether or not there is a program to encourage performance, these objectives would in all likelihood become the most easily sacrificed.

A school may be concerned, for example, with the advancement of cultural opportunities in its community. If so, it might draw up an informal status sheet listing concerts, plays, lectures and indicating the levels of attendance from the general public. This rough procedure obviously could not take into account gains in quality that offset declines in participation, neither could it balance an hour at a student poetry reading against an evening of Shakespeare. But it could indicate an area of institutional interest, and insure that its contribution there will not be overlooked.

Many institutions might wish to protect or promote scholars whose academic interests are not presently—and perhaps will never be—in vogue. These schools should state explicitly their desire to maintain scholarly excellence in certain nonpopular fields, even at the cost of sacrifices elsewhere.

While the failure to develop pursuable objectives and adequate performance measures in the past might have been justified on the grounds of extraordinary difficulty, such an argument is no longer compelling. University administrators are faced with serious financial problems; competition for dollars among existing programs is great. Where programs and payrolls may have to be cut, attention to objectives is mandatory.

Apart from concerns of internal management, there is another excellent reason why colleges and universities should establish their own pursuable objectives. If they do not do so, their outside supporters—who are increasingly eager to learn of relevant objectives, measures, and performance—may create goals for them.[7] Once this happens, however innocent the original intention may have been, there will be a tendency to tie continued support to previous performance, inflicting a loss of autonomy on colleges and universities and producing some woefully inappropriate definitions of objectives. If institutions wish to fend off outside surveyors, it is imperative that they assume the obligation of creating measures to evaluate themselves. This will require some self-examining research. Such research has been surprisingly absent to date. Given the penchant of academics for judging so many other social institutions, it is remarkable they do so little by way of judging themselves.

Higher education has concerned itself little with the development of mechanisms to guarantee that its objectives, once formulated, will indeed be pursued. The mere espousal of objectives, however concrete and measurable, accomplishes nothing. Even if there were a schoolwide or nationwide consensus on objectives, hundreds of individuals or thousands of institutions must still be induced to work towards them. As well-intentioned as they might be, they are no exception to the incentives-produce-performance rule.

The publish-or-perish system in operation at many colleges and universities provides a remarkable example of the power of incentives. Myriads of individuals spend multitudes of hours writing unremunerated and frequently unimportant articles for only one reason: within their institutions there are no significant competing management incentives. No task other than the publishing of research, however well performed, leads to promotion.

Incentives other than tenure have rarely been employed as a conscious tool of management within higher education. The best illustrations of their capabilities in this area come not from their judicious employment by internal administrators, but rather from their use and abuse by others. Alumni have at times exerted significant influence on institutional initiatives in return for contributions that were relatively small in comparison to total budgets. Student pressures that could be alleviated through concession have wrought significant changes. The federal government has sent researchers scampering from field to field as research dollars were made available first one place and then another. When, on the other hand, the government made good its threat to hold back funds, it forced universities to efforts on behalf of affirmative action.

The importance of incentives as a means to improve performance is also made evident when they are not used. For example, there is virtually universal agreement within many universities that the quality of undergraduate teaching needs to be improved. But so long as classroom performance is virtually ignored in decisions about promotions and salaries, whatever the wording of unanimous faculty resolutions, no gains can be expected.

The role of rewards as a means of achieving performance has been weakened in the past by several factors.[8] First, in their privileged status, institutions of higher education received support without being required to provide evidence of genuine accomplishment. This beneficence allowed freedom of operation to supersede internal management as a desideratum. Knowledge and cultural values were established as the overriding concern. Financial considerations were kept in the background, being thought almost too tawdry for consideration. Furthermore, major decision-makers, having almost invariably come out of scholarly rather than managerial positions, were seldom trained to the use of rewards for inducing achievement. In addition, because college-age youths were so numerous, and their subsidies for attending college so substantial, full enrollment was virtually guaranteed and the need to respond to student interests minimal. Finally, reward systems were frequently not designed to secure maximum performance. Rewards, status in particular, have traditionally come from securing brighter students and more celebrated faculty, acquiring more abundant grant monies and support funds, but only rarely from what institutions did with these "stars" and dollars.

The sensible implementation of an objectives-and-incentives system starts with the question: What do you want to accomplish? The answer should be provided by the formulation of pursuable objectives. The next question is: Whom do you want to accomplish it? Incentives can be directed to individual students or faculty members through such obvious rewards as national scholarships and reduced teaching loads; colleges or universities can be influenced by grants specifically made for the launching of new programs; higher education as a whole may be pressed through a well-communicated message from Congress that it bears the responsibility to serve as a primary agent for social mobility.

The loose organization of higher education in this country makes it fruitless to tie rewards for schools or individuals to the performance of higher education as a whole. No institution or individual would modify his behavior, since his actions would have so little effect on the measure (nationwide performance) for which he is being rewarded. National groups, such as the American Association of University Professors (AAUP) or the Association of American Colleges, have neither the coordinating tools nor the internal incentives to coerce better performance from their members.

Incentives should be applied where an individual's or institution's performance is important, and where that performance can be monitored and rewarded. This would imply that, however great the rewards to all, unless incentives operate at the level of the individual or institution, it is useless to continue our calls to improve higher education. To give only one example, the cry for greater diversity will be met only when it is in the interest of individual schools to specialize. This may be accomplished by rewarding them for achievement. Such rewards would induce them to specialize by adopting the procedures or curricula that make maximum use of whatever particular resources and capabilities they possess.

The use of incentives to encourage performance in higher education will not always prove beneficial. Incentives are only a means of influencing actions, but this generally implies an element of control. Higher education, with its horizontal structure and consensus-rule orientation, traditionally views with suspicion any kind of control, however laudable the underlying intentions may be. Further, incentives systems are subject to misuse, and their widespread application will sometimes generate unfortunate byproducts. The principal hazard is not incentives schemes developed to achieve undesirable purposes; these can generally be fought on the inappropriateness of their avowed ends. The danger is in the well-intentioned but misapplied incentives mechanism, one which is not sufficiently thought out at the start.

The federal effort to manipulate capitation grants to medical schools to correct the uneven geographic distribution of health professionals provides an example of the type of program to be avoided. The medical schools simply do not have appropriate leverage to influence where their graduates choose to practice. The schools would have to make significant sacrifices, perhaps in the integrity of admissions or the design of curricula, to ensure the program's objectives. It would have made better sense for the federal government to provide direct subsidies to individuals who choose to go to undermanned areas. Direct incentives of this sort offer an important additional advantage. The provider, the government in this instance, learns automatically how much it is costing him to achieve an improvement in performance and can shift or modify policies accordingly.

Inattention to the relationship between cost and achievement has also been a primary failing of federal efforts designed to secure faculty hiring of both minorities and women. According to the recent report by Richard Lester to the Carnegie Commission, some individuals within universities have felt their independence and scholarly traditions threatened by those efforts; yet the supposed beneficiaries of the programs have in fact secured relatively few positions. Investigation at the outset would have made it evident that without an accompanying increase in the supply of qualified individuals, hiring incentives (or non-hiring penalties) would produce little beyond a recruitment competition for the same few people.

If the program had been structured so that there was an incremental reduction in penalties in return for any improvement in performance, the cost of progress or non-progress would have been evident. As it was, because the penalties were administered on a massive all-or-nothing basis, they were too harsh to be widely employed. Little was learned, and the few schools that were in fact punished were punished excessively, and, in a comparative sense, punished unjustly.

The doctor-distribution and affirmative-action examples demonstrate how poorly conceived incentives mechanisms can produce unfortunate results. Most such situations can be avoided through thoughtful formulation, but even the most sophisticated pay-for-performance program cannot judiciously price all valued attributes or accurately monitor all relevant information about behavior and performance. Institutions and individuals will find it profitable to undertake strategic actions that capitalize on these weaknesses. Such actions will hinder the program's performance. More important, strategic behavior, whatever its effects, is likely to be considered unattractive within a college or university setting.

Confronted with reward mechanisms, faculty members and administrators will find ways to manipulate their supporters' incentives systems to their own benefit. New illustrations will be provided for old lessons such as: Don't waste good behavior if it will be better rewarded at some future juncture or in a different arena. Play up unsatisfactory circumstances that can be corrected for a price. Camouflage penalizable blunders, and spend some time advertising compensatable successes. This will not be teaching old dogs new tricks, just encouraging them to perform some of their less satisfying old tricks more often.

Those who provide incentives, whether internal or external to the college or university, will find it worthwhile to develop a few ploys of their own. In paying for what they want, they will be sure to consider what they would have gotten anyway. (Economists would phrase this as looking at the elasticity of the supply curve.) For example, whether an Arts and Sciences dean concerned with declining enrollments should or should not reward departments for attracting outstanding undergraduates as majors depends on whether he thinks they are being pulled from other colleges or merely from other departments.

Not only will people become more devious in their behavior in seeking or administering rewards, the rewards themselves will change. Institutions of higher education have heretofore run on subtle incentives that are frequently screened from view. In a community where two promotions make a career and salary differentials are narrow, a pat on the back from the dean, warm applause at the conclusion of a course, or a few extra minutes with the president may seem very significant. Once incentives are made explicit, many of these nuances will be lost. Some of the most valuable present currencies will have been depreciated.

The most alarmist opponents of the conscious structuring of new incentives will argue that the whole aura of a college or university would be destroyed if performance rewards are introduced. The institution will be turned from a place where scholarly, educational, and cultural values are sought to a bazaar where everything has its price. This seems an extreme point of view. Our purpose is not to propose that students and professors should scramble to maximize their revenues; our society expects more and rewards more from a university than mere economic efficiency.

If higher education moves to an incentives-for-performance system, the bases for support will change. The present system rewards handsomely those programs and individuals that can generate an atmosphere of creative excellence and productivity. Most that do well under this system should continue to thrive if performance measures are made much more explicit. But there will be some losers, some because they deserve to lose, others because the system makes errors. Prominent among the losers will be those that cannot substantiate legitimate claims for support. Among these, certain valuable activities will doubtlessly be sacrificed. On the positive side, institutions or individuals who are not presently favored will find that they are able to do a good job and be rewarded. For example, under such circumstances New College, which by many accounts was performing creditably, might have retained its private status.

Some will lose because the system works well. If demand does not expand apace, greater efficiency may mean fewer jobs for professors.[9] Academic positions will be scarce no matter which course is followed, but purposeful inefficiency, whatever the circumstances, is hardly a comfortable basis for keeping one's job. If employment maintenance becomes a key objective, colleges and universities may undertake alternative, more attractive methods to bolster demand—universal free access or more individualized education as a minimum standard may become more common. With their attention turned to performance, a number of institutions that presently concentrate on the single output "undergraduate receiving a liberal arts education" will find it worthwhile to generate other services of value. Adult and continuing education, paraprofessional training, cultural services to the community are only a few of the areas where these colleges might make a contribution as well as help to employ some professors.

The final question for any objectives-and-incentives scheme is: How should you reward performance? A variety of currencies is available. Some may take advantage of the exceptional importance of prestige within the academic community. Depending on what modifications are made in the tenure system, job security may become a more flexible means of reward. Still, America is accustomed to financial incentives. Dollars for achievement is perhaps the most promising way to secure improved performance from colleges and universities and those who work within them.

If dollars are to be employed as a reward for achievement, institutions will have to make an effort to secure more freedom in the allocation of funds. The tenure system, legal restrictions on funds, and the tradition that avoids cuts in support have left institutions remarkably little room to maneuver. Any major gains in flexibility will have to come from the use of incentives that are not always positive. In past times of affluence, there was not much need to use penalties. But when resources are restricted, one group's gain may have to be another's loss, not just its lesser gain. (Some currencies, such as prestige, may not allow all recipients to gain simultaneously.) Since institutions of higher education can offer relatively few incentives, and since the status quo is already acceptable to many of their inhabitants, the threat of a lesser gain in the few areas where incentives do operate is unlikely to be very powerful. If colleges and universities wish to improve their performance, they will have to subject their faculty members and administrators to more significant risks. Even tenured faculty members can be subjected to a meaningful penalty in these times of rapid inflation: a salary increase can be withheld.

Incentives schemes require information. If someone is to be rewarded, his performance must be monitored. If he is evaluated skillfully and rewarded equitably, this monitoring is more likely to be regarded as a useful form of communication than as an unpleasant act of intrusion. Incentives schemes through their very operation also convey information. If professors were paid bonuses to take on additional undergraduate thesis advisees, administrators would soon find what value that task carried. This would be very useful information indeed if the university were deciding whether more students should be encouraged to participate in a thesis-writing honors program.

Incentives schemes also transmit information from provider to recipient. When a provider tells how much he is willing to pay for improved performance in each of a variety of tasks, he is in effect describing his willingness to make tradeoffs among them. (If he will pay three dollars for another unit of A, and two dollars for a certain performance gain on B, he suggests that he is willing to sacrifice the gain on B if he can secure another two-thirds of a unit of A.) Surprisingly, when objectives for higher education are delineated, there is almost never any indication of the importance of achievement in one relative to achievement in another. Putting incentives into the system automatically raises the critical tradeoff issue which might otherwise be overlooked.

In some circumstances, incentives can reduce formal information requirements; freedom of operation may be enhanced. For example, a department may place twice the value on the task "teaching a one-semester graduate seminar" than it does on "directing an undergraduate thesis." If these comparative values are employed as weights in computing workload and tallied on a two-for-one basis, there may no longer be a struggle to secure thesis advisers for undergraduates. The chairman's arm twisting and close supervision of his faculty may be replaced by imposing certain minimal accounting chores on the departmental secretary.

How will the type of incentives discussed here perform? There is little experience to serve as a guide. Colleges and universities are extraordinarily complex;

the individuals within them are no less so. It is hazardous to make predictions about their behavior. Before formulating policies that structure incentives, policymakers might be tempted to spend thousands of hours spinning out theories about participants' behavior and institutional responses. A more profitable approach would seem to be to try out a few incentives schemes and see how well they work.

A hypothetical experiment suggests that the coupling of incentives with a pursuable objective might give a strong and beneficial push for improved performance. The professors at a mythical college are in almost unanimous agreement on their desire to improve the quality of teaching. They recognize the limitations of their capabilities for internal coordination and the administration of rewards. Rather than proceed directly—say by monitoring and criticizing each other's teaching—they might choose to invoke an incentives system, and in the process relinquish some control to undergraduates and the administration. They may request the administration to limit salary increases to two-thirds of the expected amounts, with the remaining third placed in a pool to be reallocated on the basis of teaching performance. Admittedly, student evaluations or whatever measurement tool is employed will not be totally reliable, and the faculty may be tempted to curry favor with students. But if pedagogic performance were truly sought, an incentives system such as this may well produce an improvement.

Many institutions may feel that they need not even consider a program to encourage performance, an attitude which under the present circumstances does not seem wise. If there were a document as informative to a college or university as a profit-and-loss statement is to a corporation, it might well indicate that many schools have incurred substantial losses in the last few years. A performance effort designed to contain these losses and control their impact might prove beneficial.

Administrators, in their efforts to maintain morale and extract donations, may not fully have acknowledged the decline. Perhaps they suffered from some self-delusion as well. Crass statistics, for instance, declining college board scores, were always known to be misleading. Every school is having trouble getting good jobs for its graduates. And if a few exciting programs cannot be undertaken this year, they will just be a bit delayed. These rationalizations cannot forever hide what is likely to become an increasingly gloomy situation. Many universities have turned their balance sheets from black to red. But shorter library hours, fewer acquisitions, declines in faculty real incomes, sharply curtailed professorial appointments, reduced research opportunities, and more meager scholarship aid may be only some of the losses on the ledger. There is the danger that administrators, with money matters their most pressing concern, will take too much solace from their success in producing a financial turnaround. To accomplish this, they may have set in motion factors that, unless soon corrected, will precipitate the long-run decline of their institution.

A school for which this portrayal is at least suggestive might well benefit from a program to foster improved performance. Enhanced performance would enable the school to achieve more of its stated objectives, employing only the resources presently at its command. This improved capability in turn should appeal to the areas from which it draws support. Greater support should be its reward.

* *

A prospective success story provides a hopeful concluding note. In the coming years, universities will have to be frugal when granting new professorial appointments at any level. There is a danger that the intellectual freshness provided by younger faculty will be lost. Merely lowering the retirement age is not the solution; many of the most valuable professors are senior in years.

Stanford University has developed an incentive scheme that encourages the early retirement of its less productive older faculty. A faculty member who is sixty years or over and has at least fifteen years of service to the university is offered what may be a substantial continuing bonus to leave Stanford or retire before he or she reaches the age of sixty-five. The size of the bonus is greater where the salary is smaller relative to those of senior faculty colleagues. High-salaried individuals are offered no bonus. Since Stanford provides differential faculty salaries "on the basis of individual promise and achievement," the early-retirement incentive is strongest for the least productive faculty members.[10]

This plan works only through a well-considered incentives mechanism that builds in turn on a more general rewards system. It may deal effectively with what is likely to prove a thorny problem elsewhere. No faculty committees or administrative boards will be called upon to review an individual's work, no one will be forced to retire against his will, the most valued people will have every incentive to stay on, yet new places will be created for younger people.

REFERENCES

1. Improvement implies not only increasing output, but also influencing its composition to be more appropriate to objectives.

2. The Carnegie Commission, *The Purposes and Performance of Higher Education in the United States,* June 1973, pp. 9-10, noted the major changes: "Higher education is moving to universal access. . . . New knowledge is more central to the conduct of society. . . . Intellectuals are both more numerous within society and more essential to its performance. . . . Society is in the process of reexamining values and life styles, with the campus heavily involved in the process of this examination. . . . Students are changing . . . more oriented in college toward their developmental process in its totality. . . . Many of them are more activist toward conditions on the campus and toward the societal environment within which they find themselves."

3. Recent estimates drawn from diverse sources are: private giving at $2.24 billion for fiscal 1973; actual federal outlays of $9.2 billion in fiscal 1972; state expenditures totaling $9.7 billion in 1973-74; absolute tuition dollars at $6.1 billion in fiscal 1973.

4. *The Purposes and the Performance of Higher Education in the United States,* June 1973, p. v.

5. Recent experience suggests that they have other drawbacks. Inspirational goals have tended to suggest, or have been interpreted as implying, that each institution should attempt to do all things for all people. This may have led certain colleges and universities to avoid differentiating themselves and limiting their missions. Many institutions have tried to do by themselves what only the higher education system in concert could achieve. Too many have tended to follow the prestigious leaders because they had no way of telling whether they were achieving worthwhile objectives. It is not surprising that 2,500 institutions of higher learning use mostly the same teaching methods, and that innovation is, for the most part, the preserve of those at the extreme ends of the spectrum: high-status universities, with prestige and endowment cushions, and schools in trouble.

6. Economists attempt to avoid this problem in the area of student gains with rate-of-return calculations. If the labor market were perfect, these calculations would be valid. The market is in fact so imperfect that the primary economic gain from attending college may be that it serves as a screening and sorting device. This implies that an individual's economic gain from going to college may substantially overstate the total gain to all members of society.

7. The National Center for Higher Education Management Systems (NCHEMS), which is generously supported by federal funds, has recently organized a Design Committee and Task Force on the Out-

comes of Higher Education. NCHEMS has prepared a twenty-four-page list of standardized measures designed to evaluate the outcomes of diverse institutions with different objectives. The list concentrates heavily on students and on the more formal aspects of their learning (e.g., degrees awarded, transfers, and satisfaction with vocational preparation). It also includes some measures designed to reveal the quality of the educational experience, the expansion of knowledge through research, and the extent of public and community service. Although NCHEMS does raise appropriate questions, it rarely includes adequate scales for measurement. Its principal weakness may rest with its underlying premise that a standardized inventory can capture the quality of diverse institutions of higher education.

8. An analyst of organizational behavior might observe that the very structure of institutions of higher education works against efficient operation. They are usually organized by departments rather than along functional lines such as undergraduate teaching, research, community service, etc. Furthermore, the internal organization of most colleges and universities, and particularly of their faculties, is remarkably shallow. Thousands of employees may be absorbed into a few levels in an institutional hierarchy. Moreover, as between administrators and faculty, it has been difficult to know who is responsible to whom. In many institutions, upward information flows, the monitoring of personnel performance, and other management techniques are felt best to be avoided.

9. The elasticity of demand for the services of an individual school is much greater than it is for higher education as a whole. This implies that each school may gain professorial slots as it individually increases its efficiency, but higher education generally might end up losing positions if all schools were to become more efficient.

   If efficiency efforts are not proportional but rather directed at particular resources, the analysis of gains and losses to individual resources such as assistant professors becomes complicated. Institutions that are attempting to conserve resources would be well advised to get into these complications.

10. David S. P. Hopkins, "Making Early Retirement Feasible," *Change Magazine*, June 1974, pp. 46-7, 64. Though the Stanford administration started the plan on the more restrictive 60-and-over basis, it was initially developed for individuals 55 and over with ten years of service. Calculations for the original formulation showed eighty-two early retirements over the five years 1972-7 (there would be seventy-nine normal retirements), produced at a net cost of $595,000 in 1972 dollar terms. The plan in operation is expected to cut these estimates of early retirements and costs in half.

JOSEPH M. CRONIN

The Interdependence of Higher Education

"We will hang together or hang separately," the revolutionaries quipped as they prepared to launch the republic. Higher education institutions may need to prepare a declaration of interdependence as part of a survival strategy for the 1980s.

Elected officials in at least a dozen states perceive educators as having run amok with power, money, bricks, and mortar. Governors and legislators have responded in diverse ways, including the creation of education secretariats, consolidation of once separate higher education boards into one, and even the assignment of an Inspector General in New York State to ferret out extravagance and waste. The reaction of the campus is one of incredulity, dismay, and horror. What happened to the exalted, precious, and separate state of higher education? Why must totally isolated colleges and universities work together?

The Shifts in Functions and Expectations

Decades ago, the missions of higher education institutions were clear. Normal schools trained teachers just as land grant colleges prepared engineers and scientific farmers. Some states trained merchant mariners in academies for service on the seas. Divinity, law, medicine, dentistry, and the liberal arts could be obtained at universities in the private sector.

The missions changed during the 1950s and 1960s. Several dozen land grant colleges became multipurpose universities with scores of new doctoral programs in the arts, sciences, and professions. Most of the normal schools added liberal arts departments, and more than a few became universities. Public universities added medical schools—three in California alone—when it was clear that private centers would not accept or provide enough graduates. Community colleges flourished and responded quickly to the new health, public services, electronic and computer technologies—especially in the industrial states.

The new public universities were large in size, multiple of purpose, and vulnerable through their high visibility. Campus turbulence, political action, drug abuse, or even simple shifts in life-style sent shock waves through the state capitols. Pro-education legislators privately wondered about the monsters they had fed and nurtured.

University presidents by 1970 drew a mixture of admiration for their entrepreneurial accomplishments and scorn for their weakness in letting long-haired hippies politicize the sacred groves. But only when they fell to squabbling among themselves over scarce new resources did legislators and governors call for a general tightening of budgets, planning, and governance systems. Elected officials grew uncomfortable with the prospect of isolated, independent colleges competing for new students and new degree programs with relatively few constraints on the academic appetite.

Educators at first could hardly believe the call for austerity, reorganization, and retrenchment. After all, the legacy of several wars and of the civil rights movement was the entitlement of practically every citizen to higher education—at least at the community college and, in New York City, even at the great public university. Meanwhile, persistent shortages of doctors, teachers, and well-trained managers appeared to justify continued growth, rather than a slow-down, of independent colleges.

Hardly any educators, Allan Cartter and Lyman Glenny excepted, paid attention to declining birth rates and pondered the consequences of too rapid proliferation of programs. During the 1960s, the concepts of systems planning and of interdependence were not widely accepted. The shortage of teachers on all levels in the early 1970s suddenly became a surplus. Birth-rate statistics, down in many industrial states by 30 percent or more, quietly signaled a sharp decline in the need for obstetricians, maternity ward nurses, and elementary school teachers. No-fault insurance statutes left hundreds of attorneys underemployed. The national loss of interest in aerospace left many dozens of engineers groping for new careers. In short, the lack of plans and lack of constraints on educational entrepreneurship began to be exposed.

These manpower readjustments shook the middle class and the numerous elected officials who had been conditioned to place highest priority on higher education opportunity. Nothing frightens legislators more than the prospect of a large, angry unemployed intellectual class alienated from the political and economic system. Of such kindling comes the fire of revolution. Perhaps India can tolerate large numbers of radical intellectuals, but the United States traditionally worries a great deal about unemployment among the highly educated.

The Changes in State Education Governance Systems

What could states do to end embarrassing surpluses of graduates or to avoid ruthless competition for new students? Must higher education institutions, separate and independent for so long, work together and share their plans? Would it not suffice to have a coordinating group work with all the independent governing boards? Or did not one simply agree to a Master Plan for higher education? What happened in the early 1970s was that several states formally mandated a unified higher education structure, a single governing board, rather than a variety of fiscally and politically independent boards of trustees.

Very few states have higher education systems that were carefully planned or coordinated. The "coordinating commission" of the 1960s was designed to satisfy the concerns of elected officials about the absence of educational Master Plans or roadmaps. Illinois provided the model, although in 1973 the legislature was stunned to find Southern Illinois University unable to enroll enough students to utilize the faculty positions they had already authorized. This revelation and the subsequent release of tenured faculty erode one's faith in the coordinating-board approach.

California's Master Plan referred more to the selection of students by aptitudes than to a total orchestration of programs and objectives. Thus, in 1972, that state found itself with two university systems—the University of California system and the California State University system. The legislature admitted that a coordinating council had not sufficed and authorized a totally new commission to cope with the issues of mission, scope, and planning.

Governors in the 1960s sensed that higher education expansion was the golden issue. Thus, the Rockefellers, Terry Sanfords, and Pat Browns took credit for rapid bricks-and-mortar growth. Governors in the 1970s sense that higher education officials, unchecked, may in their zeal reach too far and by force of intellect and numbers seize more than their share of state resources. Thus, Governor Scott of North Carolina promoted plans to unify all of the public colleges into a University of North Carolina system, and Governor Lucey of Wisconsin insisted that the state colleges and universities merge into a single system, if they wanted any more money.

Several smaller states made parallel but not identical decisions. Rhode Island adopted a board of regents to oversee all of public education with provision for an important committee to coordinate the University with the several colleges. Maine merged the two- and four-year colleges, Maritime Academy and University centers into a single unit under a university chancellor. New Hampshire gradually implemented an earlier decision to place the state colleges under the board and overall administration of the universities.

The concept of systems governance sounds more monolithic than actual practice suggests. The very comprehensive Carnegie Commission survey of university systems found great differences in performing such functions as faculty promotion and tenure or in mundane matters of business administration. Also, it is quite possible to provide for substantial involvement of faculty, students, and administration in campus governance while assigning intercampus and state policy matters to a statewide board. In fact, one very real fear of state leaders is that remote boards or executives will rule on matters of academic performance or discipline that could and should be resolved on campus.

The Pressures for Postsecondary Systems

At the same time, new issues confront higher education leaders in each state. New actors—such as proprietary schools or women's groups—view as a fundamental right some share in the educational largess. Budget and enrollment crises add to the pressures faced by higher education planners. From a campus viewpoint, the worst is not over. From the capitol comes a perception that the needed mechanisms for careful planning are not yet in place. Why this tension?

1. Planners worry about the twin crises of enrollment: the immediate shortfall of students interested in liberal arts or regular college attendance, and the 1980s, when the number of high-school seniors begins to decline. Can systems geared for growth respond to adversity?

2. Proprietary schools want a postsecondary education system in which they have a seat at the table where decisions are made and a shot at the student aid money for help for their clientele. Students may continue to support the new technical institutes and industry-based programs simply by voting with their feet and abandoning the less career-oriented colleges. Can vocationally-oriented postsecondary schools join the system?

3. The women's movement fights the sex-stereotyping of those state colleges that counsel women into teaching and nursing, especially if competition for scarce jobs continues to intensify. Women will demand and get access to career fields such

as science, engineering, accounting, and administration—traditionally male preserves. They will ask for and get positions on the governing board, and admissions and administrative staffs.

4. Budget managers will encounter increased demands for sophisticated cost analyses and productivity reports from state fiscal officers and legislative staffs. A new phenomenon is that of legislative postaudit committees showing special interest in the use of consultant contracts as well as the familiar fascination with faculty workload policy. Budgets will be reviewed before, during, and after the regular sessions and a new breed of NCHEMS-trained analysts will exchange tough questions about the adequacy of program structures and crosswalks. This work calls for uniform definitions and closely coordinated management information systems, the new secular substitute for piety and good intentions.

Consortia and Regional Councils

But is state-wide governance and coordination of education the best or only answer? Can higher education in each metropolitan area band together, pool resources, and allow cross-registration? To a remarkable degree, college faculties, usually willing to reform the rest of society, resist the idea that academic facilities and programs can be shared with other faculties. Nevertheless, austerity is the mother of innovation these days, and colleges in many states will declare their interdependence, at least for certain specific purposes. Colleges and universities can collaborate on a local, metropolitan, or regional basis, either on their own initiative or with state encouragement. This collaboration may appear in several forms, in ascending order of complexity: (1) the two-college agreement to share programs, health services, or dormitories; (2) the multicollege agreement, such as spawned Hampshire College, to rely on library and specialized facilities at other colleges, rather than replicate all of the usual resources; (3) the voluntary consortium, as in Worcester, Massachusetts, which pools the faculty resources and provides a shuttle bus service to hundreds of students wanting to take specialty courses at other nearby colleges; and (4) the regional coordinating council in which public and private colleges compare notes on their program expansion and contraction plans, and collaborate on continuing education and other special services. Pennsylvania, Illinois, and New York have already established such councils, and other states will follow.

Any or several of these devices will ameliorate the monolithic tendencies of strong higher education boards in large states or make possible the survival of many small colleges, public and private. They do not substitute for statewide planning and coordination, but complement and may even serve as a corrective ingredient.

Franklin Patterson reports that the voluntary consortia on their own have made relatively limited agreements, largely because of the strong tradition of collegiate autonomy. Both federal and state governments can be expected to stimulate actively the sharing of facilities, the easy transfer of students and their academic credit, and the avoidance of allegedly wasteful duplication of degree programs.

Graduate and advanced professional education presents a special challenge, in part because multistate rather than within-state agreements may effectively resolve dilemmas such as, "How many schools of pharmacy or veterinary medicine do we need?" The several regional higher education boards will grow in importance and usefulness. This leadership could be especially useful in helping to study the supply and demand for degrees in health or for doctoral programs generally.

The Limits of Interdependence

The proud university would like to think of itself as free and independent, detached from the rest of society so that the members may study and criticize its other institutions. Technology may have altered this pretty picture simply by creating a culture in which it is very expensive to conduct research. Harvard in the late 1960s reviewed the great cost of maintaining its own computer and decided to close it, while M.I.T. agreed to share access and costs of its computer center. At the same time, educators must resist the tendency of state legislatures to insist on uniform standards and the equal distribution of resources to all types of institutions. Educators can properly claim very different functions for their institutions; the research university continues to require a different staffing ratio than the community college.

State officials, in the light of changing enrollment patterns, may promote policy changes more rapidly than would those educators who expected that the supply of eighteen-year-olds would never falter. State policy-makers can readily acknowledge the rights of minorities and women to attend in greater numbers and to attend either full-time or part-time. But educators may well be asked to adjust the pricing mechanisms for affluent alumni and professionals returning for sabbaticals. Their companies or professional societies may elect to absorb most if not all of the costs, a practice already widespread in big-company management training.

What is clear is that more of the energy of colleges and universities will be devoted to adult and "continuing" education even as the supply of teenagers stabilizes. This trend will also test the willingness of universities to form new alliances with corporations and with government agencies to provide advanced education for civil servants in mid-career. Of course, one risk is that too many colleges in a region may try to compete for the same new clientele, missing not only the opportunity for planning through a regional body, but also forfeiting the chance to develop what Frederick Terman continues to call a few "steeples of excellence" in the educational community.

The traditional labels, such as land grant, community, or state teachers' colleges, will continue to fade in the 1980s. The rather crude sorting and admission mechanisms of the past have already given way to an increasingly mobile, transfer-prone student population. The supply of facilities and possible shortfall of enrollees in a changing career market make perilous the aloof "go-it-alone" attitude of campus executives and their captive boards. The individual academic entrepreneur of the 1970s may need to sign the declaration of academic interdependence in order to reach the higher plateau of freedom to innovate. The competition for scarce resources and student consumers will require a willingness to plan, justify, and make adjustments within a more collaborative and admittedly complicated regional framework. Individualism can remain a professorial characteristic, and excellence a departmental feature, but the isolationism of campuses one from another will reduce the prospect for adequate support from governments at all levels.

MARTIN TROW

The Public and Private Lives of Higher Education

I

ONE WAY TO THINK about the relation between public authorities and higher education is in terms of the distinction between the public life and the private life of colleges and universities.* The public life of higher education comprises all the plans and decisions affecting colleges and universities made by people other than teachers and students. It includes public discussions and governmental decisions about the support, organization, and structure of higher education; the hearings of legislative committees; the work of coordinating commissions and state departments of higher education; and much (but not all) of university administration. By far the greatest part of what is said in print about higher education is directed toward its public life, and toward decisions that involve agencies outside the colleges and universities—decisions about the size of the system, its costs, governance, and the like. The private life of education is what actually happens in the classrooms, the libraries, the laboratories, at the desks and in the offices—the moment-by-moment, day-to-day activities and interactions of teachers and students engaged in teaching and learning.

There are, of course, connections between these spheres, between the public and the private lives of higher education. Those connections, which are rarely direct, are almost always more complicated than public discussions might suggest. For example, statesmen of science, congressmen, and public officials debate national science policy; professional and semiprofessional journals carry stories and editorials about the proper funding of science and the best ways of administering those funds. These questions capture, and rightly so, the attention and concern of many. But it is not at all clear what the direct impact of decisions about levels of funding or the forms of organization of federal funding agencies have on the actual business of gaining new knowledge in scientific fields. It is likely that the generous funding of scientific research after World War II played a major role in the explosion of knowledge in the United States and in the rise to pre-eminence of American scientific disciplines in the world community. But with respect to many smaller decisions—for example about the funding formulas for state-supported research or graduate education in a state university—the link between the size and character of that support and the work of a research-oriented graduate department is not nearly so clear. That uncertainty allows decisions to be made by public authorities without close attention to their real consequences for the private life of universities. But I suggest that it is important—and increasingly important the more the state intervenes in higher education—to ask what the right relation is between the public and the private lives of higher education. More specifically, what decisions are appropriate to the sphere of public authority and what decisions should remain within the colleges and universities themselves?

The central problem in the movement toward universal access to postsecondary education lies precisely here, in the relation of our public colleges and universities with the state. The problem—really a set of interlocking dilemmas—involves the effect of expansion and broader access on courses and on academic standards; it involves institutional autonomy and diversity as these are affected by central planning and coordination and the demands for greater accountability and efficiency in the use of resources; it touches on the equality and inequality of institutions and on pressures on public agencies to reduce those inequalities by leveling up or down. It is here, at the interface between the institutions of teaching and learning and the agencies of the state, that the most important and difficult policy questions arise.

It lies here most obviously because of the enormous growth of the systems of postsecondary education over the past decade or two, and of their costs. It is hardly necessary to document the growth in size and cost of these systems.[1] At the same time that postsecondary education has become much larger and more costly, it has also greatly expanded the variety of functions it performs for its student body and for the society at large. The enormous increase in cost creates demand for greater accountability by the institutions of higher education to the public agencies which in most countries supply the greater part of their support. Increasingly, ministries and legislatures, both in America and abroad, want to know how higher education is using its growing budgets, and whether in fact it is using them in "the public interest" and, in some sense of the word, relatively "efficiently."

The increasing variety of functions performed by higher education makes their performance of direct concern to public bodies. Governments want to be sure that higher education is training the right number and kinds of people for a developing economy; it wants to know that colleges and universities are contributing to social justice by expanding access to groups and classes heretofore largely excluded from postsecondary education; it wants to know that they are doing research that will be useful to industry, to health, to environmental protection, to national defense, or to whatever the government of the day is concerned about. In some places, governmental agencies are becoming concerned that universities are devoting too much of their attention to research and not enough to the education of their undergraduates. In any event, the growth in the size and cost of postsecondary education and its growing importance for a wide range of public activities and policies lead governments to take an increasingly strong interest in how postsecondary education is spending its money.

Almost inevitably that interest is followed by governmental efforts to influence what the institutions of postsecondary education do. Insofar as these efforts are successful, the freedom and autonomy of postsecondary education to do as its members wish is constrained by decisions made externally. The autonomy of higher education is, of course, nowhere absolute, and it varies both formally and informally very greatly in different countries and among different kinds of institutions in the same country. But in almost all industrial societies there is under way a broad movement toward greater central political direction of the development of higher education, arising out of its growing cost and increased relevance for many areas of national life. In a sense, postsecondary education has become too important and too costly to be left to professors and educators alone.

This question—of the right relations between state agencies and the institutions of postsecondary education—becomes especially salient during the phases of transition from elite to mass and from mass to universal access systems of higher education, periods when many traditional forms and arrangements come into question.[2] Put slightly differently, the question becomes: How can the legitimate concerns of the public regarding the cost, efficiency, and expanded functions of higher education be reconciled with the freedom of colleges and universities to maintain their own integrity as institutions committed to teaching and learning?

This is a perennial question answered differently by each society and each generation. But under conditions of small scale, relative stability, and high trust between academics on the one hand and civil servants and politicians on the other—that is to say, in elite systems of higher education—this question is ordinarily resolved informally through discussions and understandings among men who speak the same language, share the same values, and are graduates of the same or very similar universities. But these close, informal relations between leading members of government and leading professors and university administrators, which reconcile the ultimate formal authority resting in government with a very wide freedom of action for academics within their own institutions, no longer serve as they did only recently. Relations between government and higher education are increasingly more formal and reflect greater differences between the parties; they are carried on by people who do not always share the same values and unspoken assumptions regarding the nature and direction of higher education. Under these conditions of more formal and distant relations, the state is more likely to assert its own conception of the public interest in postsecondary education as against what is increasingly perceived as the special interests of the senior professors in their elite universities.

Academic autonomies ultimately rest on a shared belief in the special expertise of the professoriate, in their knowing more about the conditions necessary for teaching and learning than anyone outside the university. In a narrow sense it may still be assumed that professors know more about teaching and research in their subjects than anyone else (though even that assumption is increasingly questioned). But it is by no means accepted by politicians and civil servants that professorial expertise extends to such questions as who should have access to their institutions, or that academics can on their own strike the right balance between basic and applied research or provide solutions to the problems associated with continuing education or the development of new structures of postsecondary education. In these new areas of academic decision—areas associated with the move toward mass and universal-access higher education—expertise as well as ultimate authority comes to rest (or is thought to rest) in the government departments and legislative bodies which bear the responsibility for solving these problems and for financing solutions. The expansion of the functions of higher education inevitably determines and almost always narrows the realm of professorial expertise, and strengthens the role of central decision-making bodies whose responsibilities are to make the system serve the state or nation rather than the professors and their disciplines. It is not so much that the formal responsibilities of state agencies of higher education change (though that may happen too). It is that as we move toward universal access to higher education, a variety of policy issues arise which force state agencies into a much more active, one might say interventionist, role. They assume that role—indeed, there is no one else to do it. But that in itself has consequences for the future of our systems.

Postsecondary education has grown in size, in social impact, and in cost. That alone would lead to more state intervention. But in addition, this growth has occurred disproportionately in nonuniversity, or nonelite forms of postsecondary education: in state colleges, in junior colleges, in open-access institutions, and in the future, increasingly, in "second chance" institutions like New York's Empire State College, or other forms of continuing education for adults. In the creation of new sectors of postsecondary education, state agencies, not universities, play the decisive role. Moreover, since these new institutions are meant precisely to meet the needs of society that are not met by the universities, governmental bodies are more likely to keep their development under close scrutiny, to see that they do in fact meet "social needs" and not begin to drift, through emulation and status ambition, toward university models: do not begin to restrict access, narrow their curriculum, raise their standards, support programs of basic research, and sever their ties with community and industry. In these new or transformed institutions of mass education or universal access, it is argued, institutional autonomy must be carefully restricted in order to ensure that they perform the functions for which they were created, and not fall into the orbits and styles of the older prestigious universities.

I have suggested that the growth in the scope and the functions of postsecondary education increases the role of nonacademic authorities in the decisions about what goes on in its institutions. But other forces have been at work to undermine the autonomy of higher education. For one thing, there are many more people in the society who have had some postsecondary education, and who therefore feel that they have a right to have views about it. One can see this clearly by contrast with European countries, where only tiny proportions of the population have ever attended postsecondary institutions, and where decisions about that sector are still left very much in the hands of a small elite, substantially insulated from public opinion.

But the democratization of higher education has had another and perhaps more important effect.[3] It has broken the near monopoly of the leading state universities on the higher education of the state legislators, and, to an increasing extent, of the professionals in state government. A growing number of people in state government who make decisions about postsecondary education are graduates of the state colleges or of university campuses other than the leading state university. These men and women are not quite so respectful of the leading state university, and of its claims both to resources and autonomy. They went to institutions which got by on less (and often resented it), and which also were accustomed to a good deal more direct state intervention and control. As these people come to positions of influence and authority, they often do not see why the leading research university might not also profit from closer public scrutiny, and perhaps also from a smaller differential advantage in per capita support for staff and students.[4]

The leading state universities, their professors, and their administrators also suffered in public esteem during the student uprisings of the late sixties. Many people, both in the general public and in government, came to believe that academics were not really able to manage their own institutions, to protect their property and their functions of teaching and learning. As the campuses became a major center for activity of all kinds against the war in Southeast Asia, and took a more direct and visible role in international politics, they lay themselves open to political retaliation. And, ironically, during these years the universities became the targets of hostility both from right and from left: from the right for allowing and indeed even encouraging political protests on campus; while from the left they were increasingly attacked as elitist institutions whose patterns of admission and recruitment, and whose stubborn defense of traditional academic standards, tend to favor privileged groups in society and, so it was charged, discriminate against the poor and minorities.

These feelings have in many state legislatures led to an odd coalition of conservatives and liberals who agree, if not on what the character of higher education should be, then at least on the principle that the state or "the people" should have more to say about the functions and management of the public colleges and universities. And that informal coalition—perhaps reflecting no more than a shared mistrust of the academic community—provides the necessary political base on which new forms of rationalized management can make their claims for a larger measure of state intervention into the operation of postsecondary institutions.

II

The emergence during World War II of systems analysis, the development of new analytical tools in microeconomics, the development of program budgeting, cost-benefit analysis, and policy analysis, and the emergence of new conceptions of accountability all have transformed the field of public administration and have given public authorities powerful tools for the more direct assessment and evaluation of public programs. While I have few illusions about how much all of these can yet contribute to wiser and more effective public programs, I do believe that this movement can, and will in the future, make enormously useful contributions to the creation and administration of public policies. But while I do not doubt the potential strength and applicability of these new perspectives, I am equally concerned with clarifying their limitations. If we think for a moment just of cost-benefit analysis, we know that inherent in this exercise is a statement of what a program or institution aims to achieve; what its own goals are, and what benefits to its clients or to the state or to society it hopes to produce. And it is against those intentions that we try to assess the program. Does it in fact achieve these ends, produce these benefits, and at what costs? And by appropriate analysis of inputs, outputs, and of the processes which link those means and ends, we try to improve the efficiency and productivity of the program, or replace it by other programs which can achieve those ends more efficiently.

I hope I will not be accused of a blind defense of the status quo if I suggest that there are very great difficulties in the application of this model to postsecondary education. The difficulties are clearest in the assessment of the "outcomes" or "benefits" of higher education. These "outcomes" take many forms, but their systematic study is almost wholly confined to what can be learned of the impact of college on students. But the effects or "impacts" of the college experience on individual students are enormously difficult to assess for at least three reasons.

First, many of the gains of the college experience may not reveal themselves for many years after graduation, and indeed can be understood only in terms of the whole life and career of a college or university graduate. Efforts, of course, have been made to measure the increment of lifetime income that might be attributable to having attended college. But even on this narrow issue of the "rate of return" to higher education, there are serious problems in trying to assess the effectiveness of current programs of education by trying to predict the incremental lifetime income of students now in college on the basis of extrapolations from data on the incomes of people who graduated 10, 20, 30, or 40 years ago. The whole context in which present graduates will be entering the occupational structure and carrying on their careers will be quite different from that in which graduates of the much smaller systems of higher education of the past came into the occupational structures of their own times. While some of the differences may be estimated, the unpredictabilities and contingencies in such long-range forecasting of economic development are very great indeed.

Second, quite apart from the delay in their appearance, the effects of higher education may be very subtle and difficult to measure: effects on mind, character, sensibility, competence, horizons, and ambitions—effects, that is to say, on the whole range of moral, emotional, and intellectual skills and qualities that a person takes with him into his adult life. Moreover, many of these effects, difficult to assess at any time, show themselves in the individual's life and action only long after he has left college.

Third, apart from delay and difficulty of measurement, it is extremely difficult to disentangle the specific effects of the college experience from all the other influences in a person's life: his early life experience, his family relationships and his friends, his social origins and advantages—forces which shape the very same qualities that colleges and universities also try to influence. In the face of these difficulties, efforts to rationalize administration by close measurement of "college outputs" ordinarily disregard the difficulties and measure the short-term measurable.

But over and above these considerations there is another set of equal weight and importance. I think it is fair to say that in most efforts to measure college and university "outputs," these are seen solely as packets of gains attaching to individual students and graduates as a result of their exposure to higher education. And the sum total of the "benefits" of higher education, in this conception, is merely the aggregate of these individual gains.[5] But this is a very partial and limited view of the contribution of higher education to social life. Let me suggest some other consequences—surely effects of the greatest importance—which utterly escape the net of cost-benefit analysis.

One example of gains to a society that transcends the gains to individuals attending colleges or universities is the evidence that higher education increases the tolerance of citizens for unpopular political views, and decreases the racial prejudice and bigotry that have been such powerful forces for ill in American political and social life. There is considerable evidence on both these matters.[6] And indeed, somewhat more speculatively (and in this area it is necessary to be somewhat speculative), it can be argued that the very great decline in prejudice against American Negroes in the past several decades, and the readiness to support legislation to affirm their equal rights before the courts, in the political process, and in various areas of social and educational life, have in part been the result of the widespread expansion of higher education during just these decades. There have been many who have predicted a white backlash against the gains of blacks in many areas of American life. But if the backlash has not been more widespread and serious, it may well be because higher education has been systematically undermining the foundations of racial prejudice and misinformation on which such a backlash could be grounded and sustained. If that is the case, then the extension of higher education has made a contribution to the national life beyond any of its presumed economic benefits; it may indeed have enabled the country to hold together during our enormous racial revolution.[7] Opinions may differ on how great the effects of mass higher education have been for the racial revolution, but one can scarcely doubt that it has had at least some influence. But this kind of gain is difficult or impossible to quantify, and thus is simply not taken into account in discussions of the benefits of higher education. Yet if we become a genuinely multiracial society, with the kind of full equality implied in that term, then surely higher education will be seen to have played a role in that achievement, and it may be its most important single contribution to American society in this century.

I mention this only because it is only one of a large class of "externalities"—of consequences of higher education to other than the participants—which are not ordinarily taken as "outcomes" to be measured or taken into account in assessing the productivity of institutions or systems. Another example is the impact of colleges and universities on the cultural and political lives of the cities and communities in which they are situated. And still another is the impact of mass higher education on public administration in the United States. Again we can see this more clearly overseas, where, by contrast, people in the lower and middle levels of public bureaucracies are, for the most part, not graduates of universities and have very little initiative in the creation or review of public programs and policies. Compare that with the energetic and lively Young Turks in the new departments of policy analysis and program review in our state and federal agencies. Their present, and even more important their future, impact on public administration will not, I'm afraid, be adequately reflected in their lifetime incomes, or counted in the benefits of higher education. And yet I suspect that mass higher education plays a very large part in the ability of low- and middle-level bureaucrats, in both public and private organizations, to feel competent to make judgments and take initiatives on important public issues. While that fact is troublesome for the moment for our public colleges and universities, it is, I suspect, on balance a positive force in American political and economic life.

There are, of course, analysts who will concede much of what I have said, and reply that the effort they make in the assessment of the outputs of higher education is worth pursuing and the data they gather worth using even if defective or incomplete. As one analyst in California put it, "bad data is better than no data." In some contexts, however, that slogan translates as "misinformation is better than no information." There is another metaphor that is used to justify incomplete or inadequate data in this area, the image of the visible part of the iceberg as it serves to suggest what lies below. But with icebergs, the mass of what is visible bears a fixed relation to what lies below the surface, a condition not met in the relation of the measurable and immeasurable "outputs" of postsecondary education.

So I think that we must reexamine, and reexamine very critically, the assumption that the new tools of rationalized management which seem so powerful when applied to highways, health care, and welfare are applicable, without fundamental rethinking and reformulation, to the systems and institutions of postsecondary education as well.

III

Although it is not possible here to explore this very large and difficult question in detail, it is possible to identify some areas of the private life of higher education which have been drawn into the realm of public decision-making. These examples of the pathology of the public life of higher education[8] are characteristically marked by a lack of wisdom in action and by cant in discussion. Take, for example, the support by the state of graduate education in public universities. All over the country in state departments of education or finance, or in newly formed or strengthened "coordinating councils for postsecondary education," state administrators, most of whom have never taught or administered in a college or university, are devising funding formulas and budgetary mechanisms designed to influence the shape and character of graduate education. These administrators often have little knowledge of the private life of universities—for example, of how an anthropologist or historian or physicist is actually trained and educated. But they have no hesitancy in defining criteria of "efficient graduate student productivity," and in using these criteria as the basis for recommending support levels for graduate programs in state colleges and universities. One such effort in California[9] defines productivity as the ratio of graduate enrollments to degrees awarded, and finds that "the University of California's graduate programs are systematically less productive than comparable quality programs elsewhere, i.e., they tend to be characterized by excessive and late attrition or too lengthy time to degree."[10] Moreover, since "the method of budgeting has a strong influence upon graduate degree productivity, the standards we recommend would encourage efficient rather than inefficient use of enrolled student-years in the production of graduate degrees." And since, conveniently enough, the report finds that the differences in the length of time to degree among disciplines is negligible, its authors are able to devise a simple budgeting formula which would link state support levels for graduate programs, in all academic fields and on all nine campuses of the university, not to the number of graduate students enrolled but to the "efficiency" with which the university and its component departments award degrees. This presumably will exert pressure on the university to reward "efficient" departments which produce more doctor's and master's degrees in less time. The formula, derived from the records of a sample of private graduate schools, would provide funding on the basis of 5.2 student years for Ph.Ds and 1.04 student years for master's degrees, averaged over a period of years with growth taken into account. And, as they note, "if the University of California were held to the degree productivity standards recommended here, thereby reducing graduate enrollments by six thousand students, Instruction and Departmental Research Program expenditures could be reduced by approximately $24 million . . . and, one would expect, indirect support expenditures could be reduced by an equivalent amount."[11]

The report notes of this "cost minimization model" that "its discussion of efficiency is necessarily somewhat narrow. In the first place, we ignore efficiency in the larger sense, dwelling as we do upon the physical productivity of a given subprogram of University operations. If there is a social analogue of the marginal net revenue product, we have ignored it, saying nothing about the optimal mix and scale of total University operations."[12] Charles Carter, Vice-Chancellor of the University of Lancaster, speaks to this conception of efficiency directly:

> One difficulty about discussing planning and efficiency is that these words are assumed to be representative of good things: that is, we automatically suppose that planning is better than chaos, and efficiency better than inefficiency. Hence discussion has centered on problems such as the methods of planning, and the criteria by which efficiency can be judged: and it quickly becomes concerned with detail, and particularly with those details which can be related to some form of measurement, so that we can devise an index of efficiency whose value is to be maximized. . . . But we must not, in our attention to detail, ignore some very real complications in the concepts of "planning" and "efficiency."
>
> These complications can be expressed in various ways:
>
> a. The planning of partial systems does not necessarily improve the overall system.
> b. Attention to partial measures of efficiency may lead to a loss in overall efficiency in achieving desired objects.

c. Analysis based on the representation of desired objects by inadequate proxies may be misleading.[13]

A cost minimization formula such as that cited wholly neglects the impact of graduate education (and graduate students) on undergraduate education, on space and facilities, on research: indeed, it ignores everything besides attrition rates and time-to-degree in "comparable" institutions.[14] But this is not merely an oversight. An effort to assess the efficiency of the system as a whole, and of the subsystems in relation to one another and to the whole, would require the analyst to go deep into the private life of the university, and to the variability and subtlety of the interplay among people and ideas that lie at its heart.

For example, one way of reducing attrition and time-to-degree in graduate education is for university teachers to supervise the work of their doctoral candidates very closely, helping them to avoid pitfalls and blind alleys, reducing the risks of error and thus increasing the probabilities that the student will successfully complete his set tasks and earn his degree. But one close observer of science, in a discussion of science as craftsmanship, suggests some of the potential dangers of improving departmental "efficiency" and "productivity" in this way:

> Everyone who supervises research students knows of the dangers of giving too much, or too little, help and guidance. If the student is simply told of a problem-situation and then left to his own devices, he may spend so many months floundering among failed attempts even to set a problem that he becomes completely discouraged and gives up before he has produced anything solid. But if he is given constant advice, he proceeds all too smoothly through his project, being little more than a reliable pair of hands for executing the supervisor's ideas; and he never learns to grapple with his materials or to sense the pitfalls occurring in his field. How much help should be given depends on the project, the student, the policy of the school, and the attitude of the supervisor. Research supervision is itself a craft, the most subtle and demanding sort of teaching. Some research schools let their students stumble into a large proportion of the pitfalls in their way; this is expensive, time-consuming, wasteful of talent and hard on the students. But those who survive such a course are skilled craftsmen, and of tested strength of character in this respect as well. In others, research students are given plenty of guidance, so they are sure to get through their work in a reasonable time, without too much suffering. Wastage and agony are thereby reduced, and "success" is more likely, especially if the research student is really functioning as low-paid skilled manpower working on the supervisor's problems. But those who emerge from such an experience with a Ph.D. as a formal certificate of competence, are as yet unskilled and untested in original scientific research. The one extreme policy results in many failures, and in a few scientists of promise; the other produces competent scientific manpower on a production-line basis. The character of the scientific work done by the graduates of the different sorts of research schools will inevitably reflect their training; and here we see one way in which the craft work of science is influenced by the institutional and social context in which it is conducted.[15]

This is hardly the kind of consideration a Department of Finance can take into account. Nevertheless, its recommendations, made with a concern for "the production of scientific manpower" and not "a few scientists of promise" in mind, are aimed at intervening in the relation between supervisor and student in ways that will increase the efficient production of degrees even at the expense of research and training of the highest quality.[16]

But there are many aspects of what has been the private life of universities—aspects of the central processes of teaching and learning—on which state planning authorities are making rulings or recommendations in the name of "efficiency" or "productivity." For example, there is much talk and in some states legislative or administrative action, about the number of "contact hours" that university teachers ought to clock in their classrooms. There is in state government a conventional wisdom about the "proliferation of courses" and duplication of academic departments and activities, and the supposed inefficiencies therein.[17] There is much said outside the university about the competitive relationship of academic research and teaching, and the need to encourage people engaged in research to do more teaching.[18]

External decisions about such central elements of the private life of higher education as the use of space, the amount and forms of instruction, the relation of research and teaching, rates of student attrition, and time to higher degrees, are, I believe, on balance mostly harmful. Decisions and recommendations on these issues, made by people who are not themselves participants in the life of colleges and universities, almost necessarily neglect the wide diversity of academic life. They do not arise out of a close scrutiny and detailed knowledge of the enterprise and therefore cannot reflect the uniqueness and particularity of the teaching and learning processes. Instead we see the application to higher education of a mode of public intervention that is perhaps appropriate to other activities and services of public agencies, but that is without awareness that no other public institution or service is characterized by the order of internal differentiation of higher education, or by its stubborn resistance to being reduced to standardized practices.

The universities' resistance to standardized rules established by external authorities is not, as it is often seen by the new rationalizers in state government, merely a conservative defense by academics of their special privilege. Standardized rules, externally established and closely monitored, governing space use, contact hours, and other aspects of the private life of universities are incompatible with a crucial element of academic life: the spontaneous adaptation of resources—time, space, material, intelligence—to the immediate special circumstances in which learning and teaching are going on. Spontaneity of this kind is troubling to academic planning and to the predictability and uniformity of rationalized management, though it has the closest connection to creativity both in teaching and learning. And this is a central dilemma of mass higher education.

The trouble, of course, is that this assertion of the close link between spontaneity and creativity, which is a powerful argument for institutional autonomy and its discretionary use of resources, is also conveniently used by academics to justify practices and privileges that cannot be justified by their fruits in creative teaching and learning. The argument that links institutional autonomy and a high degree of discretion over the use of its resources to the creative spontaneity of its members is both true and abused. It is true that where an academic man or woman is genuinely alive and creative, either in contributing to knowledge or in fresh and effective teaching, it is the discretionary resources that are absolutely crucial to him—resources that he cannot yet justify by pointing to their outcomes and has not got the energy or temperament to justify to administrators through proposals that translate what he really wants or hopes to do into a language that they can understand and justify to their superiors. But the central difficulty is that outsiders, such as program analysts in state finance departments, have great difficulty in knowing the genuinely creative academic from the routine or merely competent teacher. And the outsider may not be able to tell the difference even after the resources have been spent, since it is hard to know, and even harder to measure, what constitutes "success" in many forms of academic work. So skepticism about the claims of "creativity" and the need for autonomy grow.

Moreover, the whole of a big system of postsecondary education cannot be managed as casually and permissively as a relatively small elite university. Central administration of complex systems tends to make for more "equitable"—i.e., standardized—treatment of the component parts.[19] Thus, it is increasingly difficult to justify or to maintain different funding formulas and managment practices as between different sectors of public higher education. So the funding formulas that are developed to exert high external influence on expenditures in the "ordinary" institutions which make little claim to creativity come inevitably to be applied to those which both claim and even achieve creativity in teaching and research. The development of funding and review formulas for different sectors is, in fact, attempted by public officials who recognize that differences exist. But these differences in our time are under the greatest pressures from public norms of equitable treatment, from bureaucratic preferences for standardized treatment, and from the egalitarian spirit which sees all differences as inequalities, and all inequalities as inequities. How, then, can any differences be sustained as between institutions or subjects in the face of these powerful leveling forces? Part of the answer lies in bad or inadequate data.

IV

The design of data systems for postsecondary education is intimately related to the uses to which the information that flows through those systems is to be put. Data are the life blood of the new forms of rationalized management being applied to institutions and systems of postsecondary education, and these in turn are the instruments for a new and larger role for public authorities in the assessment and direction of public higher education. Therefore, we cannot divorce a discussion of data systems from the relation between public universities and the state.

A good deal of what has made great universities really creative has been a function of bad data collection. Much of the best as well as the worst in higher education has flourished in a decent obscurity. Obscurity allows for diverse practices to develop in different fields and areas—for example, in faculty-student ratios, attrition rates, length of time to degree, and the like. Subject fields differ enormously from one to another, and even the same subject differs in character among institutions, a fact not widely recognized outside the academic world. But it is almost impossible to develop or to justify support formulas that fully or accurately reflect this inherent diversity among and even within subjects and institutions. Data reveal inequalities which, once seen, must be either justified or abolished. The tendency, in the face of the egalitarian pressures that define inequalities as inequities, is to reduce or abolish them.

Obscurity—the absence of data that allow these academic and institutional variations to be seen and dealt with—allows the survival of functional as well as dysfunctional diversity. It allows, for example, the unauthorized use of space—the appropriation by a small seminar or research group of rooms which do not really belong to them and which would, if known, be assigned elsewhere. Obscurity allows for the many things, good and ill, which academic men cannot justify. And obscurity itself depends on a certain degree of trust, both by academic men of one another and by their managers externally. But when that trust has eroded, then public officials want to know in much more detail how resources are being used. And modern management systems, which follow upon the erosion of trust, are marked by a passion for good data, and thus are the enemy of obscurity and of all the practices that obscurity has allowed. A good data system generates a steady flow of detailed information, shining a bright beam of light into every nook and cranny of an institution, revealing anomalies and inequities and unjustifiable practices. And by disclosing them it goes far toward ensuring their suppression. Data about institutions are not at all neutral. They play an active and predictable role in the life of higher education, but one that is not yet even fully recognized by all the participants. It is here, on this new battleground of data systems, where the issues are who reports about what to whom, that we see in the sharpest form the struggle between the public and the private lives of higher education.

We ought at least to entertain the possibility that it is not in a university's own best interests to gather "good"—i.e., systematic and recurrent—data on as many of its own internal operations as possible. Most of what is important in a university—the human qualities of students and teachers, the social and psychological processes of teaching and learning, and the individual and social gains and benefits of higher education—are beyond routine measurement anyway. And a body of "good" data, no matter how remote from the events and processes for which it is a proxy, facilitates and legitimates the work of the governmental analysts and economists whose models of efficiency and productivity will make provision for what can conveniently and routinely be measured, and for nothing else. It is a false (though widely held) hope among academic administrators that those models can be made more sophisticated, and thus provide appreciably better descriptions of the processes they purport to describe by increasing the number of institutional "variables" on which routine and comparable data are gathered.[20] But those models must be brutal simplifications of the life of a university, and especially of its private life. They cannot describe how academic men and women use their time and the institution's space and facilities, or the circumstances under which ideas are created, skills transmitted, or character shaped.

Better data, generated by better data *systems,* are demanded from the universities by governmental authorities most often on the grounds of the public's interest in better "accountability."[21] But I believe that it is not in the public interest for the private life of universities to be managed closely by remote state officials. And university officers, if indeed they believe that, must learn again how to reassert publicly the university's legitimate claim to a necessary autonomy over the government of its private life.

But it is difficult for university administrators to resist the call for more and better data on university operations. First of all, universities are in the business of (among other things) increasing and disseminating knowledge; it is in their nature to believe (somewhat unreflectively) that more knowledge is better than less, regardless of the circumstances under which it is gathered or used. In addition, university administrators often feel they cannot appear to be unresponsive to what seem to be perfectly legitimate calls for more and better information on how their institutions spend public funds. And further, university administrators have their own interests in developing better data systems; more and better quantitative data, coupled with and tempered by a good deal of other information, may enable them to make wiser (or at least more defensible) decisions about, for example, the allocation of resources within their own institutions.[22]

But while university administrators are ordinarily more aware of and sensitive to the needs of the private life of their own institutions than are external agencies of government, a dilemma arises from the fact that any data they develop for their own use cannot easily or for long be withheld from external agencies. And so the "costs" to a university of new and improved internal data systems may be rather higher than originally anticipated. The systems analysts increasingly employed by universities are, in training, temperament, and perspective, remarkably like their counterparts in state government (and I suspect a study of their career lines will show considerable movement of systems analysts across the line dividing the university from state government). Their professional interests are in the creation of "good" data systems, which may not be identical with the good of the university. It may be that so long as government agencies press their claims for a role in the internal allocation of university resources, a wise university administrator may ask himself how *little* data he needs to have routinely collected to manage the affairs of his institution, rather than how much he can collect. And he has, if he needs them, distinguished models of university presidents who left their mark on their own institutions, and on American higher education, with very primitive managerial tools at their disposal.

V

I have not been able to spell out the right relations between the public and private lives of higher education, to say what should be managed, and what monitored, and what left utterly alone by the state. And those problems are of central importance.[23] Let me close with some questions which might guide our continuing search for answers in this most difficult area of public policy.

1. Is increasing control over the forms and functions of higher education by state agencies or authorities an inevitable concomitant of expansion and increased costs?

2. Is the increasing role of public authorities presently a force working against diversity in higher education, in their functions and standards, their modes of governance, their forms of instruction, their sources of support, and their relation to other institutions of society?

3. If so, are these "standardizing" tendencies inherent in central governmental control, or is it possible for central governing and financing agencies to function in ways that sustain and increase the diversity in higher education? If so, what governing and funding structures would have that effect, and what principles of operation would govern their activities? How can efforts to support diversity be sustained against the political pressures arising out of (a) political and bureaucratic norms which prescribe equitable treatment of all comparable units and (b) growing egalitarian sentiments and policies?

I would add one final question. What are the conditions—the milieux and human relationships—which encourage creative intellectual, scholarly, and scientific work in our colleges and universities? If, as I believe, those conditions are rare and fragile, how will they be affected by the broad structural, organizational, and political changes that we are witnessing? Should not a concern for the protection of the situations in which creative work of the highest quality is carried on by teachers and students be very high in our priorities? It would be a sad irony indeed if our systems of postsecondary education were to grow and flourish, and to perform with great efficiency all the varied tasks we and the state and society were to ask of them—all, that is, except for the creation of knowledge through scholarship and science.

REFERENCES

1. See June O'Neill, *Resource Use in Higher Education* (Berkeley: Carnegie Commission on Higher Education, 1971); and *Higher Education: Who Pays? Who Benefits? Who Should Pay?* (Berkeley: Carnegie Commission on Higher Education, July 1973).

2. See Martin Trow, *Some Problems in the Transition from Elite to Mass Higher Education* (Berkeley: Carnegie Commission on Higher Education, 1973).

3. I am speaking here of the United States, but there are parallel tendencies in every industrial society.

4. The character, quality, and perspectives of these professional administrators, growing in numbers and in influence over the life of universities from their positions in state departments and coordinating commissions, are of great importance. My impression is that many are what might be called "populist technocrats." Their views are markedly egalitarian, hostile to elite values and institutions. They identify with the interests of "the people" over against the universities, and tend to be more sympathetic to the nonselective public institutions. They serve these values, within political and organizational constraints, through the manipulation of the new techniques of rationalized management, with its steady focus on measurable outputs, and thus on the "efficiency" and "productivity" of colleges and universities. Underlying this stance is a conception of higher education as a machine for the production of "socially desirable ends," which are seen as short-term and broadly popular. Thus their sophisticated techniques are in the service of populist values.

5. This is indeed the assumption underlying the work of economists on manpower planning and theories of human capital. See, for example, the essays in Lewis Solmon and Paul J. Taubman (eds.), *Does College Matter: Some Evidence on the Impacts of Higher Education* (New York: Academic Press, 1973). "Very little empirical evidence exists on external benefits. Economists who analyze public policy toward higher education have shown an increasing tendency to regard the absence of good, hard quantified data in this area as indirect evidence that no such benefits exist. This may be more a reflection of the deficiencies in the economists' education or the narrowness of their perspective: some things in this world cannot be quantified." Robert W. Hartman, "The Rationale for Federal Support for Higher Education," in Solmon and Taubman (eds.), *ibid.* Similar limitations of perspective mark the work of most psychologists and sociologists in this area; see K. A. Feldman and Theodore M. Newcomb (eds.), *The Impact of College on Students* (San Francisco: Jossey-Bass, 1969). A brief discussion of possible "external" or "social" benefits of higher education can be found in Oscar T. Lenning, *The "Benefits Crisis" in Higher Education* (Washington, D. C.: American Association for Higher Education, Eric/Higher Education Research Report No. 1, 1974). See also Kenneth Keniston and Mark Gerzon, "Human and Social Benefits," in Logan Wilson, ed., *Universal Higher Education* (Washington, D. C.: American Council on Education, 1972), pp. 49–74.

6. See, for example, Herbert Hyman and Paul Sheatsley, "Attitudes Toward Desegregation," *Scientific American*, vol. 211, no. 1 (July 1964), pp. 16–23; B. R. Clark et al., *Students and Colleges: Interaction and Change* (Berkeley: Center for Research and Development in Higher Education, 1972); and Feldman and Newcomb, *The Impact of College on Students, op. cit.*

7. It may be argued that a decline in racial bigotry or prejudice resulting from higher education is precisely a gain for individuals. But I am emphasizing the impact of these changes on the political climate, and on political institutions and laws, which transcend changes in individual attitudes and sentiments.

8. There are also pathologies of the private life of higher education: for example, the introduction of political or racial or sexual biases into faculty appointments, student admissions, or the curriculum itself; or the intimidation or suppression of teachers and students who hold unpopular views. There are many others. The pathologies of the private life of higher education have a clear bearing on the pathologies of its public life. But that is not my subject here.

9. *Quality and Productivity in Graduate Education at the University of California: Budget Policy Recommendations*, Program Review Branch, Audits Division, Department of Finance, Report No. PR-92 (Sacramento, June 1974), pp. xii-xiii.

10. *Ibid.*, p. xii.

11. *Ibid.*, p. xv.

12. *Ibid.*, p. ii-13.

13. Charles Carter, "Planning and Efficiency in Higher Education," Council of Europe, Committee for Higher Education and Research, Strasbourg, February 1974, pp. 1–2.

14. "Of course, this measure does not take account of all the outputs and inputs we would like to include in an efficiency measure. Certainly a graduate program has consequences (i.e., produces outputs) beyond those that are measured by the number of degrees produced. We know, for example, that graduate programs contribute to research outputs, to undergraduate programs, and to the human capital of graduate students who do not receive degrees, to name just a few of their additional effects. However, the additional outputs produced and inputs utilized within graduate departments are extremely difficult to identify and measure. Furthermore, we have very little information on how inputs are combined and outputs produced. Consequently, we were forced to use a simple measure of efficiency such as the enrollment/degrees ratio." *Quality and Productivity, op.cit.* pp. 1–2.

15. J. R. Ravetz, *Scientific Knowledge and Its Social Problems* (London: Oxford University Press, 1971), pp. 100-101.

16. How effective such intervention may be is a question that calls for empirical examination. This is in part a question of the autonomy that universities retain in relation to the state in their internal allocation of funds; of departments in relation to central university administration; and of individual scholars and scientists in relation to their departments. Central budgetary formulas based on criteria of institutional and departmental "efficiency" are designed to reduce that autonomy down the line.

17. But see Joseph Ben-David and Abraham Zloczower, "The Idea of the University and the Academic Market Place," *Archives of European Sociology*, II (1971), pp. 303–314.

18. But studies for the Carnegie Commission on Higher Education suggest, on the contrary, that the people who do the most research in the leading universities do nearly as much teaching as anyone else, and quite a lot more public service and university administration. Oliver Fulton and Martin Trow, "Research Activity in American Higher Education," *Sociology of Education*, vol. 47 (Winter 1974), pp. 29–73.

19. Trow, "Some Problems in the Transition from Elite to Mass Higher Education," *op. cit.*, p. 24.

20. See Frederick E. Balderston, "The Design and Uses of Information Systems," *New Directions for Institutional Research: Evaluating Institutions for Accountability*, vol. 1, no. 1 (Spring 1974), pp. 47–66 for a view sharply at variance with the position presented here.

21. Several different meanings of this currently fashionable concept are discussed in Henry Levin, "A Conceptual Framework for Accountability in Education," *School Review*, vol. 82, no. 3 (May 1974).

22. The need for this kind of routine quantitative data is greater the larger the unit being administered and the further its administrators from the private life of the university. The heads of large multicampus universities are almost as remote from the private life of their institutions as are officials in the state capital, and are similarly driven to a reliance on simplified quantitative models of its operations as a substitute for a detailed qualitative knowledge of its many parts and participants.

23. On this issue, see Leon D. Epstein, *Governing the Universities* (San Francisco: Jossey-Bass, 1974); also Carnegie Commission on Higher Education, *Governance of Higher Education* (New York: McGraw-Hill, 1973), pp. 17–30; and Eric Ashby, *Adapting Universities to a Technological Society* (San Francisco: Jossey-Bass, 1974), especially pp. 45–59. See also the thoughtful essay by Stephen K. Bailey, "Education and the State," *Educational Record*, vol. 55, no. 1 (Winter 1974), pp. 5–12.

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DANIEL P. MOYNIHAN

The Politics of Higher Education

The federal government is much involved with higher education, but higher education is but little involved with the federal government.[1]

THAT THE FORMER should be so is understandable. Higher education is a necessary aspect of national life, and the national government has always been involved. Washington raised the subject in his Inaugural Address. It is the imbalance of the relation that is anomalous. Why has there been so little initiative and effective organization on the part of higher education in pressing its interests with the national government? A review of the experience from the 1950s on suggests that government has behaved about as governments will do, pursuing recognizable interests, including that of acting and appearing to act in terms of fairly generously defined public interests. Higher education might have been expected to respond by becoming a moderately importunate and reasonably coherent claimant on national resources. During this same period—and given no better opportunity—elementary and secondary schools, and schoolteachers, fashioned themselves into an aggressive national lobby. Higher education did not. In a manner recorded more in literature than in politics, it responded in a passive mode, accepting support it had not the power to command; agreeing without overmuch fuss to the small conditions and obligations that seemed ever to accompany such support. Dignity was maintained; dependency deepened. The series of historical accidents, which over the past two decades have given a political priority to the needs of higher education quite independent of any assertion of those needs *by* higher education, evidently induced an assumption that people, or rather The People, would always be kind. When, as of late, things have not quite worked as some would wish, there has been a tendency to attribute this to an aberrant condition in government which will soon enough be righted. This might be termed "Waiting for '76."

This paper will contend that political realities are quite different, and that, unless higher education takes a more active part in the shaping of national educational policy, interests of the first order will be jeopardized or lost. In particular, the interests of private institutions, more especially the major private universities, will be lost. Appearances, for the moment, are notably confusing, suggesting simultaneously the closest cooperation and the most protracted hostility. Thus by any general measure, federal funds going to higher education continue to increase at a comfortable pace. Similarly, while in the course of the century two Ivy League universities have sent their presidents to the White House, there has been nothing comparable to the extent Ivy League faculties have of late sent their professors to the Cabinet. In the winter of 1973-74, no less than five such posts—State, Treasury, Defense, Justice, Agriculture—were held by men whose principal work had been teaching and research in the more prestigious institutions of learning. Along with this there has been prolonged protest from campuses about freezes and cutbacks in federal spending, and an often impassioned outcry against the political policies of the past two Administrations. The Administration until recently in office was hostile in return, and so, in a general way, was *its* predecessor. It has now been many years since an American President would dare to visit the campus of a major American university. Appearances, to repeat, have been confusing. In reality, nothing impossibly complex has been going on. Academics have been playing an increasing role in public affairs, much as a certain kind of lawyer does. Presidents have got in the habit of hiring them. No political preference for professors or their universities is involved. Similarly, the political hostility of the campuses, while a product, certainly, of opposition to specific policies, has probably, in ways we are just beginning to discern, been substantially demographic in origin and in that sense politically neutral also. The matter of federal funding seems equally straightforward once examined in detail. The basic fact is that of enormous expansion. The Budget records federal expenditure on higher education in fiscal 1954 at $44 million; fiscal 1960, $700 million; the estimate for fiscal 1975 is $8.8 billion. Generally speaking, we have had about twenty years of strong and almost unbroken expansion, albeit most notably in the past decade.

Federal Expenditure for Higher Education, Including
Academic Research, Fiscal 1965-1975
in Millions of Dollars[2]

1965	$1,993	1969	$4,379	1973	$7,641
1966	2,438	1970	5,142	1974	8,627
1967	3,317	1971	6,153	1975	8,785
1968	4,363	1972	6,503		

In round terms, the federal government now provides a quarter of the cost of higher education. The earlier, often huge increases in research budgets have, however, tended to level off, at least in some areas, while student support has vastly increased. This probably accounts for the widespread assertion that federal support has been diminishing, when in fact, in the aggregate, it has been increasing. *Science Indicators 1972*, the 1973 Report of the National Science Board, shows a fairly sharp decline in federal research and development expenditures as a percentage of total federal outlays beginning in fiscal 1965. Federal expenditures for basic research in universities continue to rise, although since 1968 there has been a slight decline when measured in constant dollars. The picture is mixed: clinical medicine down, biological sciences up, engineering up, physics down. In the main, the curves of late are more flat than otherwise. There are doubtless grounds for complaint here, but no consistent pattern of reduction. The pattern is more that of a new area of government expenditure rising at a fairly rapid rate and then leveling off at a more or less steady take. This is commonly a painful process, or at least a noisy one. Where government disburses *no* funds for a particular constituency, there is at most intermittent discussion. When disbursement is large and growing, it is normal to hear complaints that it is not growing fast enough, or even that it is declining. But when it levels off, there is genuine alarm and a pronounced sense of grievance. But a deeper reason may be suggested for the wide sense of a "crisis" in higher education: in the course of these years—a brief period—decisions taken in the national government have become decisive for this sector, if you will, of the economy. John C. Honey, Chairman of the Department of Higher Education at Syracuse University, writes: "Basic decisions about the future of virtually all of higher education are now clearly in the hands of the federal government." But "higher education" has only marginally participated in these decisions.

Indeed, there is no one place, or even a cluster of places, in the federal establishment that can reasonably be thought of as a locus of policy planning in this area. A partial explanation for this lies in the diffuse nature of higher education. Which area of government is not touched by and interested in the matter? This diffuseness is to be encountered by anyone trying to estimate just what the federal government spends on higher education. Money is squirreled away or flaunted, hoarded or advertised, on virtually every page of the Budget. Changes are continual. Up goes space; whoops down. Astronomy goes flat. Social science takes off. Exit (until the very last moment, an annual melodrama) the tiny appropriation for area and language studies. Enter the behemoth, Heart, Cancer, and Stroke. Quietly, with virtually no public notice, outlays for undergraduate student support rose from $1.1 billion in fiscal 1968 to $4.5 billion (estimated) in 1975. Recall that the *total* expenditure for higher education in fiscal 1954 was $44 million. Two decades later an *increase* of seventy-five times that amount simply for *one* item could occur almost without comment, with neither criticism from fiscal conservatives nor praise from fiscal liberals. But the matter goes beyond the nature of the activity. The more complex and important an area of public policy, the higher up it customarily goes in the hierarchy of office. By this score, higher education ought at least to have an Undersecretary of its own; even a department of its own. Instead, it has a *deputy* to the Commissioner of Education, which is to say that in the federal organizational hierarchy higher education is a subsidiary function to elementary and secondary schooling. From the point of view of government there is no special disadvantage in this diffuse arrangement. Higher education concerns are everywhere and can as well be dealt with everywhere. It is by this process that the federal government became so much involved. From the point of view of higher education, it may not be *that* bad either. David Riesman, who for a decade now has devoted his incomparable powers to the lonely contemplation of higher education and its discontents, has argued that such is the vulnerability of higher education to political assault that the more "obscurity and obscurantism in the forms in which aid is channeled to higher education" the more secure that aid will be. His counsel, unwelcomed in higher education, has obviously been prescient. But suffice that university presidents have thought otherwise; the cause of an Undersecretary has been persistently pressed in a quintessential sequence. The universities have sought to win from the federal government an organizational change that would almost certainly do them harm—but have not succeeded.

The preceding assertions derive almost wholly from personal experience. The events are so recent that there is not yet a body of experience sufficient to attract scholars whose works one can study. Hence, for the moment, those of us who have, as it were, been down that way probably ought to report such observations as we were able to make, along with notes on the pecularities of the currents and the coast. In my case, I became involved with the question of public support for higher education while on the staff of the Governor of New York in the 1950s. From 1961 to 1965, as a member of the Subcabinet, I was involved with the development of manpower policy, which touched on education. In 1964 I drafted portions of the Democratic platform concerned with education. In 1969-70, as Counselor to the President and a member of the Cabinet, I was involved with education policy. This was the period in which the federal government first seriously turned its attention and resources to education—elementary, secondary, and, as the suggestive term goes, "postsecondary"—until then at best a state, more often a local or private, activity. Lyndon B. Johnson liked to think of himself as the "Education President" and with reason. In his Administration a White House assistant, S. Douglass Cater, Jr., took responsibility for advising the President on education matters and for coordinating government activities in the field. (I succeeded, for a period, to this function.) During this time there was a striking contrast between the way in which the claims of elementary and secondary education, as against higher education, were asserted; or, rather, between the way in which the former were and the latter were not. The 1950s saw a steady rise in political pressures exerted on Congress to enact a system of federal aid to elementary and secondary education. The public was responding to the great increase in the school population of those years. This was an arduous legislative task.[3] There were normal political issues at stake: Ought the federal government to become involved in an activity heretofore almost altogether reserved to the states and their subsidiary governments? There were constitutional issues also: Would federal aid go to segregated school systems in the South? Would federal aid go to Catholic schools? The latter was in ways the most important question, for it divided the forces that otherwise supported federal aid. The impasse persisted until 1964, when the Catholic hierarchy came to feel it could not continue as an ever more conspicuous obstacle to a program that had gained general support. In that year a plank was included in the Democratic platform which was understood to envision some kind of aid to parochial schools, and constituted agreement by the Bishops that a bill should go forward in 1965. The Elementary and Secondary Education Act of 1965 was thereupon enacted. The Catholics were cheated; they got nothing. (For the purposes of this paper the relevant fact being that the *private* institutions of elementary and secondary education got nothing.) But public schools now had a claim on the federal budget and, in a quite extraordinary transfer of organizational skill, a "school lobby" was set up in the national capital equal to anything seen at Albany or Sacramento. In a flash it became very possibly the most influential in Congress. (One might except labor, save that the school lobby is in part a labor lobby also.) In no time it was organized to override presidential vetoes, as it did in 1970. In 1972 the theretofore nonpartisan National Education Association backed one of the candidates for President with all the colorful language of anathema and apocalypse associated with interest-group politics in their waxing phase.

By contrast, higher education remained throughout this period a passive force, acted upon rather than acting. No campaigns were organized; no great battles occurred; hardly any spokesmen emerged. The federal government had been involved with the financing of higher education since the Northwest Ordinance of 1787 and especially since the Morrill Act of 1862. Yet no lobby had formed. There were organizations, but they scarcely spoke and rarely influenced. This was most dramatically demonstrated in the events that led to the enactment of the National Defense Education Act of 1958.

War is a spur to peacetime pursuits, especially in the field of education. The land grant colleges (and the National Academy of Science) emerged from the Civil War; vocational education assistance, until 1965 the only federal program of any size for elementary and secondary schools, came from World War I; the G.I. Bill from World War II; and then came the Cold War. On October 4, 1957, the Russians announced that they had put a space satellite into orbit. The American people were staggered. The Administration in Washington was embarrassed politically; more importantly it was genuinely alarmed and puzzled. What had *happened?* What had happened is that the United States had not put enough money into space flight. J. A. Van Allen testified that it would have been technically feasible to place satellites in orbit as early as October, 1956. Edward Teller said the Russians had more resources and were willing to take greater gambles. Scientific opinion on this was nearly unanimous. Obviously it was not an opinion reassuring to an Administration then five years in office, and the Eisenhower White House was not prepared to accept this explanation. It *could* have been self-serving on the part of the scientists.

Weeks later, on November 11, a more attractive explanation appeared. The U.S. Office of Education released a report on Russian education that created a sensation, or about which a sensation was created. It was surely one of the few such documents to be featured as the lead story of *The New York Times*. The report was a simplified version of a study—completed eighteen months earlier—of Soviet manpower. It stated facts well enough known: that the Soviets produced 80,000 engineers a year to our 30,000, that their school curriculum emphasized science and technology more than ours did, that the gifted child was singled out and treated specially. Two days later President Eisenhower spoke to the nation on television. The Russians, he said, were educating more scientists than we. Our first task, then, was to produce more than they, or something such. He called for nationwide testing of high-school students, a system of incentives for high-aptitude students to pursue scientific or professional studies, a program to stimulate high-quality teaching of mathematics and science, provision of more laboratory facilities, and fellowships to increase the output of qualified teachers. In an editorial fable entitled "Euphoria and the Scythians" *Life* picked up the President's theme, echoing what was by every evidence a widely accepted public view. It told how the happy Euphorians were shocked out of their preoccupation with life adjustment when the scowling Scythians, "a larger but traditionally dumber people," developed the latest "ultimate" weapon of destruction. While Euphorians lounged in "Pursuit of Happiness" schools, "the Scythian schools, not sophisticated enough to give courses in life adjustment, had long been developing a formidable system of study and practice in the newer scientific disciplines." Clearly, the situation "demanded that the healthy, lithe, mobile children, whose ancestors had learned Latin and Euclid by the age of 12, and adjusted later, should relearn some older and exacting habits of mental discipline." The new trivium of science, mathematics, and modern languages could save the new Athenians. The space failure had been political; it was blamed on the schools which, without notable protest, acceded to the charge in return for money. In January 1958, the President sent to Congress a program providing one billion dollars over four years to improve the teaching of mathematics, science, and languages; to encourage more able students to study them; and to assist the needy ones through scholarships and fellowships. With the scholarships deleted, and a loyalty oath added, this became the National Defense Education Act of 1958, the third (or, if the G.I. Bill is to be included, the fourth) great enactment by the federal government affecting higher education. It was a split measure, affecting elementary and secondary schools about equally with higher education, and was widely seen as a breakthrough in the only pressing educational issue of the time, which was aid to the former. Its most powerful impact, however, had to be on the latter, yet higher education had virtually no influence in shaping the legislation. This was evident at the time, as I wrote shortly thereafter:

> The act puts the Federal government in the business of directing both graduate and undergraduate education. Our educational bureaucrats, in the absence of legislation that would put them to work happily establishing grade-school construction criteria and standardizing high school textbooks, have instead been given an assignment to establish an entirely new system of graduate education in the United States. Of the money authorized for the coming fiscal year under the law, more than half will go to higher education—and every penny will go on specific conditions for specific purposes and will be specifically accounted for.
>
> Title IV of the bill, for example, which establishes the National Defense Fellowships, is specifically designed to break up the historic hegemony of the Eastern universities by establishing a string of new graduate schools throughout the South and West. Fellowships will be awarded *only* to new institutions or to new programs in established institutions. With each fellowship, the institution gets up to $2,500 to pay for the cost of instruction. In the first allocation, for example, the George Peabody Teachers College of Nashville will receive the same number of fellowships as all educational institutions in New York State combined. Of course, the South and West want Fletcher Schools and Littauer Centers of their own. This is commendable but can such schools be legislated into existence? One may also ask whether such legislation can be effectively administered by the United States Office of Education.[4]

The Politics of Excellence did not fade in the early sixties. Rather, they were seen by some to have triumphed with the election of President Kennedy. But significantly, perhaps, the new Administration was not notably concerned with the needs of higher education. First priority was given to federal aid to schools, an issue which had become a test of liberalism. Each year a new effort would be mounted; each year it would fail. Only in the aftermath of the assassination and of the agreement embodied in the 1964 Democratic platform did such a bill pass.

In the meantime, however, demographic reality was also forcing the concerns of higher education onto the national government. A new institution of higher education opened every week for the whole of the 1960s. President Eisenhower was able to sign a measure providing for dormitory construction in 1960. (This had also been the initial approach to school aid: it had been hoped to contain pedagogical controversy by confining federal assistance to building construction.) President Kennedy proposed a more general Higher Education Facilities Act which was enacted shortly after his death. It was only in 1965, however, with the Higher Education Act, that Congress approved federal scholarships for undergraduate students—"educational opportunity grants." The events leading to this break in previous practice followed a pattern very like that of the National Defense Education Act. Once again higher education policy was deployed by the national government to serve external political needs, in this case to press further to fill out a central theme of the Kennedy and Johnson Administrations—that of equality. In the space of the eight years between these two bills the direction of federal policy toward higher education was all but reversed, going from excellence to universalism. But the derivative nature of policy remained unchanged. Higher education was a means of obtaining goals arising elsewhere in the political system. In a situation where policy is not the responsibility of any particular official or agency, or even within the cognizance of any, policy shifts are never explicit or exact, but manifestly this reversal took place. It happened by stages as do most policy changes. The National Defense Education Act, with perfect consistency, had pronounced that "no student of ability will be denied an opportunity for higher education." President Kennedy cited this provision in a 1963 general message to Congress on education, asserting that the NDEA was not fulfilling this assurance. He proposed that the federal government—"as it did in the days of the National Youth Administration"—help colleges provide additional student work opportunities of an educational character. He asked for this, and for a "survey and evaluation of the need for scholarships." The "Work Study" program, as it came to be known, was enacted as part of the Economic Opportunity Act of 1964. (The poverty program—in program terms—was very much a reenactment of New Deal measures which had lapsed during World War II, with the addition of community action. Politically, however, it was far more egalitarian in its thrust, partly because of political forces loose in the land, partly because of the energies released by the pronouncements themselves.) The Work-Study program was not directed to salvaging young men and women of genius who might otherwise be lost to science. It was designed simply to enable the children of the poor to go to college as did the children of those not poor. Project Talent, initiated in the 1950s—and in its concerns representative of the time—had begun to produce data which established that few if any geniuses *were* being lost. Access to higher education was correlated with family income, but *also* with ability. If help was needed, it was for students in ordinary ranges of ability. The 1964 Democratic Party Platform plank on higher education was, as I wrote at the time, a transition of some consequence in that long sequence of pronouncements:

> the transition from merely encouraging higher education to, in effect, insisting on it. The preceding platform had declared the belief "that America can meet its educational obligations" but had not really defined what those obligations might be. Rather, the 1960 document called for a series of specific categories of Federal assistance, leaving it for the future to determine just how much money and how many people would be involved. The 1964 platform, in contrast, said little about forms of assistance, but was explicit as to the objectives to be attained thereby.[5]

The platform stated:

> Our task is to make the national purpose serve the human purpose: that every person shall have the opportunity to become all that he or she is capable of becoming.
>
> We believe that knowledge is essential to individual freedom and to the conduct of a free society. We believe that education is the surest and most profitable investment a nation can make.
>
> Regardless of family financial status, therefore, education should be open to every boy or girl in America up to the highest level which he or she is able to master.

"Educational Opportunity grants," as stated, came the following year.

Thus, federal aid to education, in significant amounts and associated with major legislation, began in the 1950s. At first, aid to elementary, secondary, and higher education was combined in a single enactment, with no special distinctions made. For a period thereafter, aid proposals, intermittently successful, followed parallel patterns. Then in 1965 this legislative movement culminated—and split. Institutional aid was provided to the schools. Some monies were directed toward students, but in marginal amounts. The reverse occurred in higher education. The major thrust of federal policy became that of providing monies to students. Some aid was provided institutions, but marginally so. Thereafter schools developed a powerful Washington lobby to increase the aid they received and this process became self-sustaining. The colleges and universities did not. For them, initiative remained with the federal government.

In a curious sequence, the Johnson Administration, having suddenly accorded higher education a first priority in its legislative scheme, just as suddenly dropped it. *The Chronicle of Higher Education* reported in 1972 that "the Johnson Administration, which in 1964 accepted pioneering proposals for the expansion of federal aid to higher education and got them passed by Congress a year later, by 1967 was rejecting ideas for further trail-blazing—including many that are still being debated today."[6] The lull lasted until March 1970 when President Nixon sent to Congress what may fairly be described as the first message of any President devoted solely to this subject. The times were troubled, with much unrest, and the 1968 election had been almost as close as in 1960. In the earlier situation President Kennedy had pretty much followed the counsel of the Founding Fathers that great initiatives are not built on slender majorities. In 1969, however, this seemed inadequate to the demands of the time. Great initiatives seemed necessary because of even greater danger. It was possible for the new President to propose a *combination* of large initiatives: those which a Democrat might have put forth in the aftermath of a great electoral victory, and those which a Republican might have done in comparable circumstances. For a period the new Administration did tend rather to follow this course. It was not especially successful. Rather than cooperating in the manner of what the British term a national government—which would not have been absurd, given the times and the problem of leadership—the two political tendencies usually succeeded in thwarting the initiatives attributable to their opposites. Sometimes, out of sheer confusion, they combined to thwart anything. But the formula of balancing liberal with conservative measures could work and occasionally did. It mostly did in the events now to be recounted, failing only with respect to institutional aid for colleges and universities, and failing primarily for lack of support from the intended beneficiaries. Congress responded to presidential initiatives where large and representative portions of the electorate were affected: for example, the newly enfranchised young and the politically active aged. The Education Message of 1970 was the last of its kind; increasingly the Administration pursued the uncompromising line which presumably led to its 1972 majorities. But in a *fin de ligne* manner, the message was not without a certain elegance. The President first of all proposed, in effect, to fulfill the pledge of the 1964 Democratic Party platform. *The Chronicle of Higher Education* noted that a number of the Nixon proposals resembled those that had been urged upon, but ignored by, President Johnson and by various higher education task forces which he wisely set up, including one chaired by William C. Friday in 1967.[7] Higher education would be available to all, regardless of income. As the mark of an important occasion, the new President made a television statement on the day the message went to Congress.

> Let me first address myself to young people who are thinking of going to college. Under the plan I am proposing today, no qualified student who wants to go to college would be barred from doing so by the lack of money.
>
> Through a combination of student aid and a new Student Loan Association that would make it possible for any student to get a loan, you could afford to go to college no matter what your family's income might be.
>
> Now, it would not be a free ride. You would probably have to work; and you would be expected to pay back the loan when you got a good job. But the important thing is you could afford to go to college, regardless of the income of your family.

In a direct line from the Kennedy and Johnson proposals, which were partial but aimed at a definite goal, Nixon proposed to go all the way: to establish universal access to scholarships for low-income students. These came to be known as Basic Opportunity Grants (alas, BOGS) and were enacted as part of the Education Amendments of 1972. Not much notice was paid, but an event of consequence occurred. The 1975 budget provides $1.3 billion for BOGS. To repeat, $1,300,000,000.00 for the schoolyear 1975–76. This sum would assist 1.6 million students by providing grants—

scaled to the resources of the student and his family and to the costs of the college in which he is enrolled—of up to $1,400 apiece. In fiscal 1968 federal outlays for undergraduate support were $1.1 billion. In fiscal 1975 they are estimated at $4.5 billion, the sum of a number of student aid provisions of which "BOGS" is merely the most important. Even to assert that an egalitarian goal has been met is to invite scorn if not abuse, but perhaps it will be agreed that progress has been made. What of the complementary, balancing initiative? Very simply, it was selectarian. It is the essence of education to be selective with respect to degrees of ability, of effort, of achievement, of difficulty, of importance. It is a classifying activity. If it were to become a mass function by fiat of the federal government, the government (I reasoned) also had some responsibility to attend to the need to maintain select standards in at least some parts of the system. This seemed to be a worthy "Republican" goal, something that party could claim for its own, much as BOGS was Democratic in spirit. It harkened back to the Eisenhower proposals concerning quality and high performance in exacting disciplines. It resonated, so I hoped (I was wrong), with what seemed to me the distinctive achievement of (largely) Republican wealth in creating in the late nineteenth and early twentieth centuries the great private universities of the land, the still predominant institutions of our academic culture. It was the one other proposal in his general message which the President referred to on television, allotting to it equal time and the appropriate quotation.

> I am also proposing a new National Foundation for Higher Education, funded with $200 million in its first year, to give grants to colleges in support of excellence and new ideas. Our colleges, our technical schools, our great universities need this stimulus now to encourage diversity, to set new and higher standards for education.
>
> A century ago, Benjamin Disraeli said, "Upon the education of the people of this country, the fate of this country depends."
>
> For the future of so many of our young people, and for the quality of life of this Nation, I urge the Congress to act promptly on the Higher Education Act of 1970.

The object of the Foundation was to channel "free" money to institutions of special merit. In quite disproportionate measure this meant older, private institutions.

There was a political background to the proposal which helps explain its otherwise unexpected appearance. The new Administration had no more come to office when the elite colleges and universities began to serve notice of a curious sort. Washington was warned that if it did not act in certain ways, the signatory colleges and universities would blow themselves up, as in the Amherst Declaration of the Spring of 1969. This seemed a development as unwelcome for government as it was unpromising for higher education. Some disengagement—from that struggle, from the 1960s—seemed necessary. In the spring of 1969 the President asserted two principles which, it was hoped, would guide relations between the federal government and the institutions of higher education in the nation. He recalled them in his message to Congress a year later.

> First, that universities and colleges are places of excellence in which men are judged by achievement and merit in defined areas. . . . Second, . . . that violence or the threat of violence may never be permitted to influence the actions or judgments of the university community.

In the 1970 message he linked these principles to what had in the interval become a considerable movement in Congress to deny federal benefits to students participating in campus disorders.

> I stated then, and I repeat now, that while outside influences, such as the Federal govern-

> ment, can act in such a way as to threaten those principles, there is relatively little they can do to guarantee them. This is a matter not always understood. No one can be forced to be free. If a university community acts in such a way as to intimidate the free expression of opinion on the part of its own members, or free access to university functions, or free movement within the community, no outside force can do much about this. For to intervene to impose freedom is by definition to suppress it.
>
> For that reason I have repeatedly resisted efforts to attach detailed requirements on such matters as student discipline to programs of higher education. In the first place they won't work, and if they did work they would in that very process destroy what they nominally seek to preserve.

In effect, the President was asking for a truce in the war that had raged between his predecessor and the universities. It was not to be, but it is to be noted that he sought it in terms that were at least respectful of what most institutions would regard as their most important attributes. *Politics led the Presidency to emphasize those attributes.* So, equally, had political considerations led to the proposal of a National Foundation for Higher Education. A new Administration in office needed to stake out an identifiable area of policy as its own. Apart from a proper concern for black colleges and an unstated but inferred interest in supporting the more ambitious sectarian colleges, the obvious waiting answer was to address the condition of the major colleges and universities. First of all, by 1970, their financial difficulties were already plain enough: a substantial number of these institutions were and are private. The states and then the federal government had been transforming higher education into a public utility, a facility open to all. But half of the most important institutions of higher education were singularly ill prepared for this transformation, dependent as they were on private endowments and gifts rather than tax monies for much of their incomes. (In 1970 the American Council on Education published "A Rating of Graduate Programs" by Kenneth D. Roose and Charles J. Anderson, scaling 130 institutions and 36 disciplines. Seventy universities appeared at least once among the "leading institutions, by rated quality of graduate faculty," with scores in the 3.0 to 5.0 range. Of the first 22 universities, those appearing at least 17 times in the ACE rating, 12 were private. Of the 49 that appeared three or more times, 26 were private. In writing of "quality" in higher education, it is fundamental to be clear that educational research has cast the most awful doubt on whether there is any such thing with respect to student achievement, especially, perhaps, undergraduate achievement. What goes in comes out: bright, bright; dim, dim. What is transmitted differentially at, say, Harvard, is not learning but influence. However, there is such a thing as higher and lower achievement in faculty performance, and probably also in graduate training.) If the Administration was to make a mark in the field of higher education, it could best do so by recognizing the special nature of this resource. Further, a certain regional bias against these institutions had emerged in the routine of national politics which merited a certain redress. The Ivy League universities are clustered where the ivy grows, but the impulse of Congress, and of Presidents seeking congressional approval, is to spread things around: One Nation, Four Hundred Thirty Five Major Universities. This bias in the National Defense Education Act has been noted. In his 1963 education message to Congress, President Kennedy was explicit on the same point.

> We need many more graduate centers, and they should be better distributed geographically. Three-quarters of all doctoral degrees are granted by a handful of universities located in 12 States. The remaining States with half our population produce only one-fourth of the Ph.D. s.[8]

There remains to be noted that residuum of disinterestedness in any political decision. Most of those people involved in the 1970 message and legislative proposals felt a case could be made for helping the great institutions, for which the times were not the best either. Nathan Pusey described 1968-69 at Harvard as "a dismal year" which in time would appear "to have been very costly." Gardner Ackley characterized 1969-70 as a "tragic year in the life of the University of Michigan." To the degree the federal government could do anything about these difficulties—do anything in keeping with the two principles the President had earlier laid down—it was simply to provide the major institutions with money with as few strings attached as possible. (Again there was a certain effort at defining an administrative style. A guaranteed income for the poor was money with as few strings as possible. Revenue sharing was money for cities with as few strings as possible.) The model of the University Grants Commission in Britain was there for reassurance and to suggest an appropriate fit with ancient English-speaking institutions. The Carnegie Commission on Higher Education had proposed such an approach. The White House was not to have its way wholly in shaping the message. In the Department of Health, Education and Welfare an enthusiasm arose, as it invariably does, for "innovation and reform." A compromise was reached, but one not too subversive of the selectarian goal. The language of the Message to Congress was scarcely noticed at the time, and is hardly remembered, but it is worth reading if only to recognize that the federal establishment can produce such language, even if it cannot necessarily summon the conviction that should underly it.

> One of the unique achievements of American higher education in the past century has been the standard of excellence that its leading institutions have set. The most serious threat posed by the present fiscal plight of higher education is the possible loss of that excellence.
>
> But the crisis in higher education at this time is more than simply one of finances. It has to do with the uses to which the resources of higher education are put, as well as to the amount of those resources, and it is past time the Federal government acknowledged its own responsibility for bringing about, through the forms of support it has given and the conditions of that support, a serious distortion of the activities of our centers of academic excellence.
>
> For three decades now the Federal government has been hiring universities to do work it wanted done. In far the greatest measure, this work has been in the national interest, and the nation is in the debt of those universities that have so brilliantly performed it. But the time has come for the Federal government to help academic communities to pursue excellence and reform in fields of their own choosing as well, and by means of this own choice.
>
> Educational excellence includes the State college experimenting with dramatically different courses of study, the community college mounting an outstanding program of technical education, the predominantly black college educating future leaders, the university turning toward new programs in ecology or oceanography, education or public administration. . . .
>
> To meet this need, I have proposed the creation by Congress of a National Foundation for Higher Education. It would have three principal purposes:
>
> —To provide a source of funds for the support of excellence, new ideas and reform in higher education, which could be given out on the basis of the quality of the institutions and programs concerned.
>
> —To strengthen colleges and universities or courses of instruction that play a uniquely valuable role in American higher education or that are faced with special difficulties.
>
> —To provide an organization concerned, on the highest level, with the development of national policy in higher education.

The last point is worth noting: it was thought that the board administering this fund, made up in the main of educators, would provide a locus in the federal government for concern about higher education.

The Foundation got nowhere. Indeed the President's message was denounced by

Washington representatives of higher education on the very day it was sent to Congress. Probably the main reason for this opposition is that the higher education associations in Washington had reached a sort of least-common-denominator agreement to seek "institutional aid," an across the dollars-per-student support formula. The advantage—never to be underestimated—of such a proposal is that it is easy to understand. The disadvantage is that it makes no provision for—pays no attention to—the need to support quality, a need which by 1970 was urgently evident. This need was, and is, most pronounced with respect to private institutions, simply because, with a disproportionate share of high quality faculties, libraries, laboratories and such, they have the most money problems. But there are also great state universities—national in almost every important sense—which by 1970 had become almost as pressed as they found themselves competing for funds with the profusion of other public campuses opened in the preceding decade. The National Foundation was designed to respond to these needs: but it was perhaps too late for the representatives of higher education to think in terms of "minority" interests, though they are the most crucial interests of all.

But a more persistent institutional characteristic was also revealed. In the 1950s and then in the 1960s initiatives concerning higher education arose primarily from the political interests and objectives of successive Presidents and their Administrations. Rarely did higher education *act:* it was acted upon. It had not been necessary to act in the earlier instances. First the President and then the Congress had responded to unmistakable and well-established political interests. *Their interests:* National Defense; equality of opportunity for a vast potential student population drawn from almost the whole of the electorate. Now it was proposed to act on behalf of unfamiliar objectives—what the hell is excellence?—and in settings that had limited political appeal. ("I'm a Cornell man," said a New York legislator, a propos of something or other one evening years ago. "I'm a Yale man," responded another. "Harvard is my college," volunteered a third. "What college did you go to, Al?" someone called out. "Fulton Fish Market," said Assemblyman Smith, in an exchange that would be recalled on that floor for half a century.) The President, pursuing political goals sufficient to him, had more or less openly opted for this special assistance to the major universities. But for Congress to respond, support had to be rallied by *those universities*. The proposal that they should do so was put to the universities, but they did not. In an address to the American Council on Education in October, 1970, as I was leaving government to return to teaching, I outlined the legislation, saying "the response would have to be described as indifference in the Congress and embarrassed silence or suspicion in the world of higher education." I fair to pleaded for *some* reaction—*any*. It was nearly settled that the next Congress would enact a major, omnibus bill, and that unless some aid for the major universities was included, the chance would be lost for some time. Congress was not against such aid, but was not about to take the mere say-so of the Administration that it was a good idea. If the Administration proposals were not satisfactory, I continued, let alternatives be proposed. Silence.[9] In the Spring of 1971 Representative Edith Green, Chairman of the House Special Subcommittee on Education took up the matter with me. The Administration had proposed two new institutions within the jurisdiction of her committee—the National Foundation for Higher Education and the National Institute of Education. The latter was to be a research facility in the manner of the National Institutes of Health, devoted to teaching and learning problems in elementary and secondary schools. Congress was having difficulty distinguishing the two proposals. The Chairman was prepared to have one. My judgment was asked: I opted for the National Institute of Education (since enacted) on grounds that at least there were some who wanted it, if only a handful of research scholars. *No one* seemed to want the National Foundation.[10] A small fund for innovation was included in the Education Amendments of 1972, but the idea of an independent body disbursing large sums to major institutions disappeared without a trace. The Democratic Party did not mention the possibility in its 1972 platform; the Republican platform alluded to the idea of a National Foundation for Higher Education, but only in the past tense.

Most of the remaining Administration proposals, including the Basic Opportunity Grants, were, however, enacted. John C. Honey has written of this sequence:

> The Higher Education Amendments of 1972, passed with bipartisan support and White House approval, will profoundly affect the character and quality of education beyond the high school for a long, long time. The failure of the Washington-based spokesmen for higher education to contribute significantly to the shaping of those amendments verges on the scandalous.[11]

He saw this as partly a matter of the way the spokesmen managed their affairs, but perceived a more enduring condition as well.

> The deep-rooted reason for the ineffectiveness of higher education's Washington representatives is in the apolitical or anti-political attitudes of many academics. Do faculty members across the country know the essential features of that legislation which is bound to markedly change their lives—the Higher Education Amendments of 1972? How many of them know which way their congressmen and senators voted on the amendments? How many have expected and wanted their Washington representatives to compete effectively with other claimants for federal resources?

In her keynote address to the American Council on Education in 1972, Martha E. Peterson, the distinguished President of Barnard College, recalled my hectoring two years earlier, acknowledging that "[We] feared we might be enticed to take sides in a partisan political battle," but wondering, along the lines of Honey's comments, if there were not something deeper amiss.[12] There is, and it is this. Higher education has become a public utility with private standards. The political institutions of the land understand the public service function and see to its first-order requirements—that of making it available to the public. The second aspect, maintaining quality, is but little understood and little explained. The institutions most associated with the maintenance of standards have a difficulty here. They are ideologically egalitarian, but ecologically elitist. Their ethos is and mostly always has been one of opening the society as each succeeding generation undertakes the task of recreating social equity: a Protestant tradition now sustained by Jewish intellect and touched by the radicalism of both. The enthusiasms of the academy for leveling or for uplift have been at times perhaps selective—rarely, for example, extending to the Catholic proletariats near at hand—but they have withal been sustained and genuine. The problem is that these enthusiasms are ecologically dependent on principles of rigorous selection: the best students, the most distinguished professors, and, in the case of the older, private institutions, a wealthy alumni, preferably the beneficiaries of primal nineteenth-century capitalist accumulation. It works. They deliver: both in scholarship and in graduates. But it is difficult to explain, not least because of the dissonance between ideological assertion and ecological base. ("How do you get to Washington?" went the quip by those who could not in the 1930s. "Go to Harvard and turn left.") Hence, presumedly, the silent trusting to the kindness of strangers, especially strangers of seeming liberal political views. As Honey wrote in an editorial in *Science:* "Had the 1972 election turned out otherwise, it would have been tempting for higher education's leadership to sit back and say, 'We're O.K. now; we have a friend at court.' " (The possibility should at least be noted that the "elite" private institutions have, in fact, become opposed to their own existence. They are, after all, the very embodiment, the quintessential representatives, of privileged wealth, including that privilege which evidently the wealthy find precious, the wherewithal to be generous by giving away some portion of their wealth for purposes they approve. Because wealth accumulated and controlled by private university trustees is not taxed, obviously this deprives the political system of resources *it* might dispense and may account for the evident hostility of that system to private institutions. In any event, as such institutions are increasingly influenced by a political ethos that declares privilege based on wealth deplorable, they are perhaps less vigorous, because less convinced, in pressing their case for public support. It may be asked if it is possible, for example, for a serious socialist to attend or to teach at a private institution save for tactical purposes. Mind, an egalitarian front is a potent defense for privilege: declaring, in effect, that one does not desire that which one benefits from. Still, ethos has outcomes. In the main, the elite universities are opposed in principle to the social arrangements which make their existence possible.)

Friends at court can help, to be sure. But the very phrase betrays a certain longing for that which is not. Recent assertions to the contrary, we do not have a monarchy in the United States. We have an egalitarian democracy, in which selectarian institutions are ready-made objects of symbolic attack. The loyalty oath of the National Defense Education Act (inserted by a Republican staff member in the Senate seeking the approbation of Senator Goldwater, who turned out not to like loyalty oaths) was seen, properly enough, as such an attack. Might not something the same be said of the affirmative action programs of more recent years? Dr. Peterson asserted that federal officials carrying forward the program "invaded the right of autonomy of the campus," and so they did. But they have only been exacting loyalty oaths with respect to what is merely a more recent political concern of the national government. It is difficult for the egalitarian *philosophes* of the best institutions to believe any such thing, but it is the very nature of such places to be seen as exclusive, hard to get into, places whose social function is to discriminate. Lest I join the wearisome list of those suspected of insufficient commitment to the goals of affirmative action, let me record that I was Assistant Secretary of Labor for Policy Planning in 1965 when Executive Order 11246 assigned this duty to the Department of Labor (which subsequently delegated responsibility for Higher Education to HEW). I am simply noting that it is no accident that elite institutions are being given a hard time by the enforcers. The normal bent of democratic political institutions is to seek to ensure that mass institutions become representative of the mass. If universities are not to become miniatures of the polity with respect to governance, political forces will at least seek to make their faculty and student bodies miniatures of the electorate.[13] Once again the private institutions come off worse: they have the least legitimacy in such encounters, being the least official. Recall that after several decades of battling to be included in any federal program of aid to elementary and secondary education, the Catholic schools—read private—came to an agreement, and then got nothing.

A further political condition is that the more elite colleges and universities, being, in the main, more politically active, are given to attacking other institutions and are attacked back. The left, in power, would doubtless find opportunities to pressure universities toward desired ends. (Certainly the left *within* universities has sought to do so.) But at the national political level it has in general been the political right which has been after the professors and, more recently, their students and their presidents. The Nixon Administration evidently entered a vindictive and disgraceful conspiracy to injure at least one such university—the Massachusetts Institute of Technology. As reported in *Science,* the President, angered by the opposition of M.I.T. President Jerome B. Wiesner to various of his policies, issued a directive "to cut back on M.I.T.'s subsidy in view of Weisner's [*sic*] antidefense bias." In October 1971 a memorandum from a White House Staff Secretary asked the Secretary of the Treasury, the Domestic Assistant to the President, and the National Security Advisor to the President to report on how this program was proceeding. When the existence of this and other documents became public in mid-1973, Wiesner generously stated that he knew of "no overt action" taken to punish M.I.T., and *Science* noted that "President Lyndon B. Johnson, riled by some scientists' opposition to his Vietnam policies, was said to have gone over the budget figures to pencil out items he thought should not be funded." The Nixon Administration's action is nonetheless shocking and seemingly unrepented to this day.[14] In the meantime, it will serve to record yet again the fundamentally political nature of the federal relation to higher education and the difficulty of response.

What is to be made of this narrative of troubles and responses? First, there have been more responses than troubles. The national political system has shown itself generous and active with respect to the claims made by or on behalf of higher education. It has responded much as did state governments earlier. Second, these responses have followed normal political patterns, most notably in being redistributive with respect to the concentration of higher education opportunities in "privileged" regions and social classes. The constitutional and political disinclination to aid private institutions, while not so pronounced as in the case of elementary and secondary schools, is nonetheless in evidence. Third, the most active period of legislation has now passed. As noted, neither party made any proposal of consequence in the 1972 platforms. Student aid measures, at least for the moment, seem completed. (Changing grant levels is budgetary routine.) No major across-the-board institutional aid legislation has been introduced or proposed by anyone in Congress or by the Administration. The National Foundation proposal has disappeared. No alternative proposals have been offered in its place. In the White House, in the Congress, nothing is happening. The Nixon Administration has followed the sequence of the Johnson Administration: considerable interest in higher education during the first years, then indifference verging on hostility.

Explanations occur, each probably in some measure valid. Mechanical: higher education does not reward those who seek to advance its interests. Political: universities became centers of opposition to the foreign policies of the Administration (as of its predecessor). Demographic: the huge student cohorts of the 1960s are no more. (Between 1960-70 the student population grew by almost half a million a year. For 1974-82 the increase will be slightly over one hundred thousand—a nearly flat curve. By mid-1974 *The New York Times* was reporting colleges across the land would in the fall "reach a dreaded watershed as fewer freshmen show up than last fall, for the first overall decline in first-year students in peacetime memory." Between 1960 and 1974, college and university enrollment increased 5,779,000, or

152 percent. The increase from 1974 to 1982—the furthest year ahead for which projections are made—will be 848,000, or 9 percent.)

In sum, a system of federal support for higher education has come into being which is complete enough and flexible enough to serve most purposes. The exception to this statement is that there is no arrangement of general institutional aid: money to pay the costs of education beyond the fraction defrayed by tuition. This money must now be got elsewhere. In the case of public higher education, it is mostly got from state governments; private institutions rely significantly on private gifts and endowment. It is probably fair to say that the main issue of public policy with respect to higher education at this point is whether public institutional aid should be made available in significant amounts to private institutions, especially private universities of special distinction and their public counterparts. A prior question is whether they need it. Consideration of public policy ought always to begin with the assumption that "they"—whoever or whatever they may be—do not. Taxes are high enough. In this instance there is a prima facie case of sorts that indeed private colleges and universities do not need federal aid. A proposal was made four years ago to provide it, but those who would have benefited showed almost no interest. At the time the proposal for a National Foundation was being put together, a considerable number of administrative officers of major private universities did in fact state there was plenty of "fat" in their budgets, and they did not really need national assistance. Thereafter their institutions behaved as if this were so. However, the strongest likelihood is that it was not so then as it is not so now. One need only to have asked a librarian at the time.

The indifference shown to the National Foundation by those who would have benefited from it is probably best ascribed to a generalized political disability. The institutions of excellence had never had to struggle for funds from the federal government—*when* they were pursuing objectives *set* by the federal government—and by the 1970s most were too egalitarian in their leadership to ask for anything that might suggest elitism. (There were other difficulties. The amount proposed for the first year—$200 million—was not overwhelming, even if it was planned that succeeding budgets might grow to $1 billion. Moreover, a number of small grant programs were to be "collapsed" into the larger fund, and in a not unfamiliar pattern this aroused more opposition than the overall proposal aroused support.) Whatever the case, inflation has now confirmed the extreme financial difficulty of the private institutions, threatens to make for long-term difficulty, and raises, for many, the prospect of near-term collapse. Inflation approached 10 percent in 1973; it could stay there; it could go higher. At 10 percent inflation, a billion dollar endowment is reduced to $386 million in ten years. In such circumstances not only do endowments disappear, but, given existing legislation, the great foundations disappear even faster. (The Ford Foundation reports that between 1963 and 1973 its resources, in constant dollars, declined from $4 billion to under $2 billion.) By the 1990s private universities as they are now known could well have disappeared, been absorbed in state systems, or divested themselves of all but their few profitable operations.

(It is difficult to generalize about profitability, but it is probably generally true that the social legislation of recent years has considerably increased the cost of doing educational business. In July 1974 Charles L. Wheeler of the University of North Carolina and Rev. T. Byron Collins of Georgetown University testified before a subcommittee of the Senate Appropriations Committee that the cost of compliance by institutions of higher education to the Occupational Safety and Health Act of 1970 would be in the range of $2.9 billion to $3.9 billion.)

This loss would be felt perhaps first by the major public universities which keep pace with the private counterparts and, of course, frequently outpace them. Years ago New York developed the idea of the state ownership of a certain number of public utilities in order to provide a "yardstick" against which to measure the performance of private utilities. David Riesman has noted that something of a reverse relationship exists in higher education. The private institutions set standards, especially of independence and excellence, which public institutions can assert on their own behalf against their popular masters. (Mind, the analogy with public and private enterprise runs both ways. When the "yardstick" theory was first devised, it was assumed that public enterprises would set an economic standard for private enterprises to match. History has taught us that the relation is as often the other way round. Just so with public and private universities. Historically it was assumed that pressures to "interfere" with academic freedoms and standards came from the right and that public institutions were particularly vulnerable to such pressures. Recent history has taught us, however, that such pressures can also come from the left—and here it is the private institutions that prove particularly vulnerable. The left can almost always count on internal allies among the faculty and, of late, administrators also. Hence, in a period of left pressure, it would be the "public" institutions that provide the yardstick by which to measure the maintenance of freedoms and standards. But all the more, then, is the usefulness of a mixed system which makes these reciprocal measurements possible.)

As in so many other sectors of the economy, higher education seems headed for the condition of public affluence and private squalor which obtains throughout great ranges of the society, especially where institutions in the respective sectors compete with one another. Who would not trade the job security of the small Catholic institution for that in the local branch of the State University? Who would dare compare salaries and benefits? Which Ivy League professor does not envy the secretarial services routinely available at a community college? There is a presumed virtue in maintaining a public-private mix in education as in other areas, and a case for this can also be made. Even so, nothing is likely to happen to aid private institutions as such. The emphasis by the National Foundation on concentrating financial aid in colleges and universities of pronounced excellence—public or private—was almost surely sound, even if the Foundation might in retrospect seem a somewhat clumsy and not thoroughly thought out proposal. As higher education becomes a mass phenomenon, the problem of maintaining highly selective institutions is bound to increase, so that the differences in governance of, say, Berkeley and Columbia will seem small when compared with the similarities of the problems they face. Here the most likely solution would be to constitute the top twenty or so academic institutions as National Universities, to be supported through a National Foundation (in one guise or another) administered by a board on the lines of the University Grants Committee in Britain. Support need never be total, but it could be sufficient to ensure, as much as money can ensure, the maintenance of the standards that have been achieved, but obviously are under some threat. Such a solution is not likely. Something much more diffuse, such as a general cost-of-education grant—"institutional aid"—is the more probable next event in national legislation. (The 1972 Amendments included a provision, not yet funded, for cost-of-education allowances keyed to the size of the institutions and to the number of BOGS recipients they enroll. Such a program would doubtless be helpful to large public institutions with moderate costs, large enrollments, and many low-income students, but it is of less certain benefit to a Chicago or a Brown or, for that matter, Wisconsin or Illinois.) There is, however, the possibility that the national interest in maintaining the present centers of excellence will assert itself, and perhaps even that those centers will assert themselves.

The record is not encouraging. Nor is it heartening to find as distinguished and experienced an observer as Charles V. Kidd writing in *Change:*

> [while] from 1968 through 1974 virtually every report bearing upon graduate education and research has stressed the significance of institutional support . . . , one of the most striking aspects of these successive national reports is that they have been ineffectual in moving federal policy off dead center. . . .
>
> Guides for thought as to how this nation can proceed with the advanced training of the talented young are now spelled out in a remarkable set of national reports. It is up to the political leadership to see how these documents of the late sixties and early seventies might shape American advanced training in the eighties.[16]

This is willfully evasive. The National Foundation was directed to precisely the objectives Kidd describes. If changes in the proposed legislation were desirable, changes could have been proposed. Political leadership had been forthcoming. Higher education was not. Far more accurate, and reassuring, are the observations of Stephen K. Bailey, who either just in time or just too late has become Vice President of the American Council on Education. Addressing the Council in late 1973 in Washington, he declared: "Whether we believe it to be fair or just, we have a reputation—at least in this town—for being exclusive, self-indulgent, patronizing, and sloppy. . . ." In an "increasingly egalitarian world," he continued, the distinctions of academe "are no longer amusing." What had to be said he said outright:

> "The simple fact is that educators have not been adequately helpful to those who are trying to be helpful to them."[17]

Whether educators will heed this advice is not clear. In May 1974, Martha Peterson, the former Chairman of the ACE, testified on behalf of it and seven other groups at congressional appropriations hearings on the higher education budget. The joint statement she presented said in part:

> We submit that the financial pressures our institutions are feeling are real, and potentially destructive, and that they result largely from forces over which they have no control. . . . It seems incredible to us that nowhere in the entire [Administration] budget is there the slightest indication that the quality, or indeed, even the survival of the institutions that must provide the education is a matter of any concern.[18]

Fair enough. But it is equally incredible that when the very same Administration *did* assert a major, specific, legislative concern for the quality and the survival of those institutions, no spokesman for higher education came forward to accept or even to acknowledge the initiative. For the moment everyone may simply be waiting for '76. (Everyone in higher education, that is. In the first half of 1974 the school lobby put through Congress a $25 billion four-year extension of the Elementary and Secondary Education Act of 1965.) But higher education has yet to establish that it is interested in and capable of influencing legislative and budgetary outcomes. At times it seems almost to prefer the role of victim. Is it too late to save the private universities? On balance, the judgment would have to be that it is. Even if "quality" education should once more become an object of federal interest, private institutions are so outnumbered by public institutions of higher education that no matter how politically effective the American Council or whatever representative body might become, the preponderance of internal influence and interest has to be on the public side. The prospect is that one by one the great private universities will be incorporated into state systems, with a few disappearing altogether. Some predict Harvard will survive. Notre Dame ought never to be underestimated. Even so, it will be yet another melancholy chapter in what Schumpeter years ago foresaw as the conquest of the private sector by the public sector in the later stages of a declining capitalism.[19]

REFERENCES

1. Once again I have occasion to express my deep appreciation to Dr. Chester E. Finn, Jr., for the insight, experience, and knowledge which he brings to questions of public policy in education, and especially for his help in the preparation of this article.

2. This table was specially prepared by the Office of Management and Budget, for which I am indebted to the Hon. Roy Ash and to Paul O'Neill. Federal outlays for higher education have been about proportionate to the general increase in the budget of the Department of Health, Education, and Welfare. From just over $20 billion in fiscal 1964, it rose to just under $50 billion in fiscal 1969, to an estimated $110 billion for fiscal 1975, with an unprecedented increase in the outlay for education estimated to take place between 1974 and 1975. See *National Journal Reports,* vol. 6, no. 6, (February 9, 1974), p. 209.

3. See Robert Bendiner, *Obstacle Course on Capitol Hill* (Toronto and New York: McGraw-Hill 1964).

4. Daniel P. Moynihan, "A Second Look at the School Panic," *The Reporter,* June 11, 1959, pp. 19ff.

5. Daniel P. Moynihan, in Earl J. McGrath, ed., *Universal Higher Education* (New York: McGraw-Hill, 1966).

6. *The Chronicle of Higher Education,* February 7, 1972.

7. Daniel P. Moynihan, *The Politics of a Guaranteed Income: The Nixon Administration and the Family Assistance Plan* (New York: Random House, 1973), p. 134 fn.

8. For what it is worth, between 1960 and 1970 there was rather a decided movement of Ph.D.s, in terms of place of high-school graduation, toward the South and West *(Science Indicators 1972).* From 1968 to 1973 students enrolled in Catholic colleges declined 7 percent, and those in Catholic schools 36 percent (*U.S. News and World Report,* May 20, 1974). No causal assertion is made here, but neither should anyone think it makes no difference to lose out in the competition for federal funds.

9. Daniel P. Moynihan, "On Universal Higher Education" in *Coping: On the Practice of Government* (New York: Random House, 1973), pp. 285-313.

10. For an authoritative account, see Chester E. Finn, Jr., "The National Foundation for Higher Education: Death of an Idea," *Change,* March, 1972. Finn was principal in formulating and drafting the 1970 message and legislation.

11. John C. Honey, "The Election, Politics and Higher Education," *Science,* vol. 178, no. 4067 (December 22, 1972).

12. Martha E. Peterson, Keynote Address to the 55th Annual Meeting, American Council on Education, 1972.

13. An example may be taken from the Applicant Data Sheet of a Southwestern institution. Applicants, if American citizens, are told to "Check one of the following:"

ETHNIC GROUP	*DESCENT*
White	European, Indo-European, Pakistani
Black	African, Jamaican [*sic*], Trinidadian, West Indian
Spanish-Surnamed	Mexican, Puerto Rican, Cuban, Latin American
American Indian	Some Tribal Association
Asian-American	Japanese, Chinese, Korean, Filipino, Cambodian
Other	Aleuts, Eskimos, Malayans, etc.

There is a certain ignorance on display here. Just what a "Jamaican" is, we do not know. How the Malays end up with the Aleuts, 50 degrees of latitude to the North, is another mystery. All federally inspired ignorance. What we have here, as has been said, is federal hiring, a practice that would have been thought inconceivable in the 1950s, but which took place with virtually no initial resistance in the following decade. Resistance is now getting organized, and will give higher education trouble for the rest of the present decade. For the purposes of this essay the important point is that most of this trouble could have been foreseen, and much of it avoided. Indeed, it was so *obviously* coming that the failure of higher education to take up the matter seriously argues a deep and genuine disability. In the commencement address at the New School for Social Research in 1968, published in the Fall of that year in *The Atlantic Monthly*, I stated that the university hiring policies just then taking shape in Washington would inevitably lead to a confrontation between black and Jewish interests, that this would harm the universities, and, further, that it would constitute a loss to political liberalism which was unnecessary and avoidable. It took—what?—five years for this loss to be consummated in the *DeFunis* case which ended, predictably, in an uncertain nondecision by the Supreme Court. See Daniel P. Moynihan, *Coping: Essays in the Practice of Government* (New York: Random House, 1974).

4. "White House Foes: Wiesner Target of Proposal to Cut M.I.T. Funds," *Science*, vol. 181, no. 4096 (July 20, 1973), pp. 244ff.

15. Leslie Lenkowsky has described this phenomenon as "the cost of policy change." It was surpassingly in evidence with respect to the proposal of a guaranteed income (the Family Assistance Plan). At the same time the suspicion lingers that if poverty were as real a problem as it was made out to be in the 1960s, there would have been considerably more support for establishing an income floor.

16. Charles V. Kidd, "Graduate Education: The New Debate," *Change*, vol. 6, no. 4 (May 1974), pp. 43ff.

17. Stephen K. Bailey, "Education and the State," Keynote Address to the 56th Annual Meeting, American Council on Education, Washington, D.C., October 11, 1973.

18. *Higher Education and National Affairs*, vol. 23, no. 19 (May 17, 1974), p. 1.

19. This essay has concentrated on relations of the Executive Branch to higher education, primarily because policy initiatives have generally come from there. This is not necessarily the case: Congress took considerable initiative in shaping the National Defense Education Act. The Congress is not, however, any better organized than is the Executive Branch in dealing with higher education. The new budget procedures could change this situation, however, and should be looked to by higher education's representatives. The Congress also has a number of members, notably Reps John Brademas, and James G. O'Hara, who take an active and informed interest in this subject.

GERARD PIEL

Public Support for Autonomous Universities

"All people shall have the right to receive an equal education correspondent to their ability, as provided by law." So reads Article XXVI, Paragraph 3 of the Constitution of Japan in the translation officially available to the English-speaking visitor. Presumably, it reads more idiomatically in the Japanese, as it must also have read in the original English of the 1947 draft from Headquarters, Supreme Command of the Allied Powers, whence it was translated to the Japanese. Its meaning, however, is clear. A rich industrial society can make no larger promise to its members; it owes its children nothing less.

Japan, it must be conceded, has scanted the fulfillment of this undertaking to the first postwar generation. In the country's headlong commitment to economic growth, the public universities have been neglected, along with the rest of the public sector. Private institutions of doubtful quality and meager resources have had to absorb the overflow of the country's upward-striving, fiercely competitive young. In sum, the Japanese have not "provided by law." I shall nonetheless conclude this essay on the state of higher education in the United States with the proposition that our universities put forward Article XXVI, Paragraph 3 as an amendment to our own Constitution.

The Japanese had Douglas MacArthur; we must look to the community of higher learning to secure this undertaking of the people to the people. The Right to Education Amendment is here advanced, however, out of equal concern for the standing and welfare of the universities. It would anchor the autonomy of these institutions in a constitutionally declared obligation to the citizenry—an obligation prior to the uses of the university asserted by governmental and corporate powers.

The unprecedented expansion of the last twenty-five years has now carried American universities into the same slough of stagnation and inflation that mires the rest of the economy. With the end of the start-up of the last big weapons system, the principal motive of federal support has died away. In Bethesda, cancer is all that remains of the fiscal magic of biomedicine. Income from the federal government in current dollars runs slightly above the peak year of 1967; it is discounted by the 40 percent inflation since. The recession of federal funding has revealed it for what it truly has been: not alone the support of contract or grant projects but a significant subsidy of the general expenditures of the 100 biggest universities, public and private. The overhead from federal grants and contracts still supplies the largest flow of unrestricted funds for many of them. American universities are once again, however, asking the parents of graduate students to pay their children's tuition or submit to a means test.

State legislatures, in disenchantment with the obstreperous offspring of the baby boom, have called off their celebration of the country's great public universities; they are making appropriations disproportionately smaller than the smaller cohorts now enrolled. The private establishment of higher education, meanwhile, moved its endowment into the market for "total return" just in time to absorb the retreat from the Dow-Jones 1000. Increases in tuition have dangerously lowered their pool of financially and intellectually competent applicants. Smaller and weaker private institutions face insolvency, and their trustees now reckon with ultimate liquidation. On almost every budget, public and private, the decline in income and the accompanying decline in the value of the dollar continue to outrun the cutting of expenses. Faculty compensation, after a generation of improvement relative to the rest of the labor force, is once again declining.

Understandably, in this financial crisis, financial measures come foremost. Administrators and the practiced entrepreneurs of science have been devoting their ingenuity and experience to bringing back the good years, 1955-1965. This is the sum of the message of the 2.5-foot shelf of reports from the Carnegie Commission on Higher Education. It does not appear, however, that such worthy and urgent domestic purposes as those conjured up by "Environment," "Quality of [Urban] Life," and "Energy" have nearly the project-grant induction power exerted in the past by armaments and space. The G.I. Bill of Rights is accepted at last in the embracing of federally funded scholarships and fellowships. But the ground won here has been lost to the promotion, by the private establishment, of tuitions in public institutions. The object, of course, is to check the widening of the competitive gap between the public and the private sectors. This regressive movement has meanly divided the community and found welcome in too many state legislatures.

Thus, while the usual attention is paid to the volume of public, especially federal, support, there has been almost no consideration of the terms of such support. The American university is taken to be the federal university shaped by the events of the past twenty-five years. Service—"problem-solving in the national interest"—retains its essential place and function as the third leg of the tripod. Somewhat atrophied at the moment, it stands ready to regain its former standing in response to funded demand. Research, as ever, is warranted by its utility. The last contribution to science policy from the now defunct office of the Science Advisor to the President called for federal funding of university science in accordance with and in proportion to its relevance to National Goals, as defined from time to time by the appropriate federal agencies. (Presumably, one or more of those Goals would vouch for the utility of the arts and humanities along with the sciences.)

For teaching and learning, piously accorded status as first leg of the tripod, the model asserts equally compelling practicalities: marketable skills for the student; productivity for the economy, and value-free intelligence for service in Washington. The record well sustains such claims. Personal income, according to the Jencks report, increases as a function of the duration, if not the quality, of education. Fritz Machlup and others have established the dynamic role of research and learning in driving the growth of the GNP. The Kennedy-Johnson and the Nixon Administrations have shown, each in its own style, the kind of finesse an education at Harvard or at the University of Southern California can bring to decision-making in the White House.

Our universities have succeeded well in the three-fold enterprise of service, research, and teaching, as evidenced by their visibility in public affairs and in such indexes as the Nobel Prizes. Yet they have fallen low in popular esteem. The disappointed consumer, trapped in the suburban cul-de-sac, has traded pleasure in the tangible values of rational materialism for anxiety about the environment, population growth, and his fuel supplies. A tide of anti-intellectualism is running in the vogue for the psychic, the mystic, and the occult. Science and the universities are identified with the overhanging catastrophe of World War III and the preparatory exercises in Indochina. In the view of millions of disadvantaged and alienated citizens, the space adventure constitutes a no less callous misappropriation of resources. A substantial body of informed opinion holds that the commitment to the exotic technologies of weaponry and space has weakened the country's grasp of the domestic industrial technologies. Now that funding supplied for ulterior motives by mission-oriented agencies has stopped for equally irrelevant reasons, it can be seen that the universities have won no popular constituency to back them in a claim on the national treasury for the support of higher education in its own right.

In sum, the universities are caught in the crisis of public confidence that besets the other major institutions of American society. Doubt and suspicion begin with the elementary question of the legitimacy of the power they have acquired. Nothing in the Constitution or in the theory of the market economy ratifies the concentration of economic power in the few corporations that dominate the country's finance, industry, and commerce. The checks and balances built into the structure of the government did not anticipate the concentration of the executive authority in a single agency that chronically commands from 8 to 10 percent of the country's total economic activity. Still less was there provision for the accountability of private enterprises that would be created to do business with a single agency of the government rather than with the market. Significantly, it is with this latter dubious combination of interests that the universities are most closely associated in their transactions with the federal government and in the public mind as well.

If the universities are now to restore their legitimacy, they must recover their innocence. The time has come to bring their federal period to a close. They should return to the mission for which our society, in its best hours, looks to them; that is, the increase and dissemination of knowledge. This is a unitary mission, not a twofold one, to supplant the federal trivium; the "and" is a conjunctive, not a disjunctive. In the innocent ideal, to elicit the thirst and capacity for rational enquiry is the aim of teaching, and the learning of the student follows in the track of the teacher's inquiry. If some "service" is owed, in addition, to the community, it is to the community as it ought to be and not as it stands today. The university is the supremely normative institution of contemporary secular society. It cannot accept as given the purposes and values of other interests and institutions. Its resources are not for hire.

The university is there to serve not the highest bidder, or its benefactors, or even society at large—none of these, but rather the individual citizen. It is here that the circuits of power close in a self-governing society. In *Education Between Two Worlds*, Alexander Meiklejohn perceptively stated the duality of citizenship: the citizen is at once the governed, and so subject to the power of the government, and the sovereign governor of that power. The university is the seat of sovereignty. It is the institutional embodiment of the immunity—set out in the unambiguous words of the First Amendment—that hedges the sovereignty of the citizen. Inquiry conducted there is subject to no intervention or regulation by any external authority. This absolute freedom of inquiry belongs to the citizen. He exercises this freedom in his role as governor and, by its exercise, secures the ground to choose the goals and make the policy of his government. His inquiries, especially in the realm of science, have changed the course of history. The self-government of the republic is no longer reserved to the patrician minority; it is open to all the citizens.

The university has, as its solemn responsibility, therefore, the education of sovereigns. For this task, Meiklejohn's little book does the service of *The Prince*. It reminds us that, by all odds, most of the treasure, time, and human energy expended on education in our universities goes to prepare young citizens for their roles as the governed. What is wanted in a governor is autonomous intelligence, disciplined to seek and face the truth and capable of the awesome judgment that stands up to wishful thinking and authority. That does not always come along with training in a marketable skill. There is wanted in a governor, further, the involvement declared by Percy Bysshe Shelley: "We are legislators to the world!" In the words of Paul A. Baran he must be an "intellectual," one who acts on the ethical imperatives of his understanding, not an "intellect worker."

What is the curriculum of education for citizenship? The objectives specified in the foregoing will be recognized as the aims of what Meiklejohn and others, from one epoch in American education to the next, have called "liberal" or "general" education. The curriculum has had varied forms. From Meiklejohn's own romance with the proposition that the Founding Fathers had read the same Bible, Shakespeare, *Principia,* and John Locke came the 100 Great Books program of St. John's College. The more accommodating strategy of the Ivy League calls for a tour of the horizon under the heading of "distribution" and the experience of a discipline under the heading of "concentration." More recently, yielding to agitation for an unbuttoned American version of *Lehrfreiheit,* many university colleges have abandoned all attempts to organize the undergraduate curriculum. (In state universities, as a result, undergraduates have been abandoning the humanities and, except for the vocation-bent, the sciences in favor of business, "prelaw" and similarly "relevant" and sterile courses of study.)

The shape and content of the curriculum are probably not nearly so important as the spirit in which it is conceived. That someone tries at all accomplishes the Hawthorne effect. But that the effort is a trial, must be constantly renewed, and can rarely be long sustained tells something else about our universities. The claims of research and of the scholar's career in his discipline militate against education. This is not to say that the brilliant researcher is not most often also the ideal teacher. It is, simply, that he does not win credit for such effort from either his invisible college or his university, especially in the crucial years before settled tenure.

The record of this period of federal research-funding shows that the teaching "load" of faculty members, in particular the hours they give to undergraduate teaching, has been reduced by 50 percent and more on the average in the country's foremost universities compared to prewar years. Especially in these institutions, the courses reflect the interests of the discipline and little regard for those of the student. The elementary course in each field is taught almost invariably as the first lap on the track to the doctorate in that field. In one commanding private establishment, the department of history offers nearly 100 courses, but not a single course that can tell a nonconcentrator what history is about. (Students in lesser institutions may be lucky to have business and "prelaw" courses they can flee to.) The most prestigious faculties have been talking aloud about the possibility of closing their undergraduate colleges and declaring their institutions to be "research universities."[1] This vision may now be dismissed as a Walter Mitty fantasy conjured up in the chronic anoxia of too many flights to Washington. In spirit, however, it suggests that interest in education, as distinguished from preprofessional training, is dead in those universities.

It is argued that preprofessional training can be managed only at the few institutions where the first-rank professionals practice. Education, on the other hand, is a highly personal and individual experience, available to the seeker at many sources. The liberal arts college—urged at other times to take its place at the end of the line before the grants windows in Washington—is touted as the native American crystal spring of whatever it is that is wanted under this heading, far better equipped for it than the university. In truth, despite their poverty and the isolation of their faculties from the mainstreams of research, the liberal arts colleges continue to supply a substantial percentage of the *illuminati* that turn up each year at the graduate schools. There is a liberal arts "component" open also to the community colleges; it is agreed that they ought not to be devoted entirely to vocational training, especially in view of the uncertain market for and the high rate of obsolescence of the trades they are teaching, starting with the celebrated paramedical paraprofessions. At the 500 or 1,000 leading public high schools, uncounted thousands of citizens have found education and not merely vocational training or college preparation, depending upon the coincidence of the time of their passage through those schools and the half-life of a gifted teacher. In the educational default of the Ivy League universities, the faltering New England prep schools are discovering a new reason for their existence. Finally, it will be agreed, education is a lifelong enterprise. It is fostered by university extension departments, museums and other community cultural institutions, by substantial elements in the commercial press, and even, at times, by the electronic media.

Yet a strong case remains for the obligation of the universities to education, *meaning the education of undergraduates in their colleges.* Those colleges attract the brightest young people and have responsibility for them through the most portentous years of their intellectual and moral growth. Ahead of all alternative settings, the universities are in possession of the principal material and human assets available to the aims of higher education. Toward the supreme aim, the creative scholar is the best teacher. He sets the student the example of the free man—of freedom won by the mastery of a discipline and zeal in its practice.

The case for education in the university has a compelling symmetry. It is just as strong the other way around, restated as the importance of the college to the university. The undergraduate is a noncaptive. His presence, as distinguished from that of the indentured graduate student, forces what Alfred North Whitehead called "the imaginative consideration of learning." Preparation of an undergraduate course brings to the surface the inexplicit premises of a line of work. Development of a college curriculum asserts the unity of knowledge against the centrifugal preoccupations of the fields. Undertaken as a serious enterprise, it can compel community of scholarship, at least by departments. It can even foster what Richard von Mises declared to be the objective of learning: "to arrive, for all phenomena that are of some interest, at a description that is connectible across the boundaries of all fields."

Time taken out for such deliberation need not be put down as a total subtraction from research. It may be credited to the choice of topic and goal for the next round, even if it does not advance the work for which it comes too late. In principle, it seems, the link-up of research to education would afford more reliable navigational charts than the marketplace of the granting agencies, foundations seized with relevance (the environment yesterday, energy today), or corporations with extramural R & D funds. The interest at one extreme is in short-term uses of the established stock of basic knowledge. At the other, the motivation runs from the enduring concerns of the species, newly discovered as they must be from one generation to the next. What is mistakenly called "pure" science or learning for its own sake has, in fact, these deeper driving motives that society fails to heed or overrides at its deep peril. The downgrading of education in the universities, as evidenced by the stultification of their colleges, signals just such peril. It is a measure of their departure and drift from their central role in the self-government of our society.

The reconstitution of the universities that is implied here as a goal to be sought would require reconstruction of the nature of the claim they lay on society for their funding. They would cease to sell their services—as Lee DuBridge would have it, the government has been "purchasing" research from them. The universities would be compelled to assert their primary mission as the ground for support. There would be an end to the fashioning of econometric models of their contribution to the GNP; that represents, in any case, their lesser function of service to the governed. It would be acknowledged that universities belong on the consumption side of the ledger, expenditures there going to the consumption of an inexhaustible resource, the only resource that increases as it is consumed. There is no small difference between two large numbers, as in the tidier world of business, to measure their performance. Other criteria would have to be found—in marks and honors or other measure of student attainment; in engagement of alumni in civic responsibility, in arts, letters, and the sciences; in the rescue of the offspring of the disadvantaged; in the fostering of sanity in public discourse. We might learn to find less regret than William J. McGill does in the notion of "taxi-drivers with college educations." The universities would command their due share of the general tax funds as the vessels of a most essential social enterprise, at once the expression and the shield of our civility and humanity.

The impracticability of this approach to public funding can be easily argued. To read the transcripts of the hearings at which state universities justify their budgets one would not guess that the state legislatures are so strongly populated by their alumni. Sometimes not even the appeal to the utility of learning, certified by science, can be made to work. Yet Americans do place an absolute value on education, and this motive generates the bulk of the capital and income funds available to higher education, public and private, if not to the "federal" universities. It would be more becoming of these institutions to credit the American electorate with the ideals it is supposed to cherish; the effort, regarded as a venture in adult education, would be in keeping with their charter.

The great privately endowed universities have more than one reason to reconsider their posture and strategy with respect to public funding. In the first place, they are the flagships of the entire system. Their independence, hitherto secured by their more or less princely fortunes, has protected the state universities from yahoo disruption. The protection was never absolute, of course, but the prestige of Harvard, Yale, Princeton, Chicago, and Stanford, MIT, and Caltech was there to foster the recovery of Berkeley and of the University of Washington, for example, in the aftermath of the teachers' oath scandal of the 1950s.

Now the great private institutions must look to their own independence and prestige. Private funding has fallen behind the real growth of their activities and the inflation of their costs. Public funds account for a third and more of their operating budgets. The privately endowed universities cannot go on pretending that this is a temporary state of affairs. They must acknowledge their new status openly. This is the necessary first step in the difficult and hazardous task that must follow, that is, the negotiation of honorable and secure terms for public funding. They will be negotiating not only for themselves but for the entire higher educational establishment. What is to be resolved is a paradox: public support for autonomous institutions.

Such a momentous negotiation is not to be conducted with the White House, or with any agency of the executive branch, or with the Congress. It must be taken to the electorate. An Article XXVI, Paragraph 3 incorporated into the Constitution would plainly establish the other party to the negotiation. With or without the Right to Education Amendment, the necessary discourse with the electorate cannot get under way too soon.

In practice, "education correspondent to ability" implies the dismantling of the economic hurdle. That calls for the provision to each student of a stipend to cover living expenses as well as tuition at the university of his choice. The upper-middle-class abhorrence of subsidy for families that do not require it, expressed in the promotion of tuitions for public institutions, can be assuaged in several ways; for example, by requiring that the stipend be shown on the family tax return and, if necessary, by taxation at a special rate.

This undertaking would bring about historic change in the public status of the universities. Their obligation to the citizenry would have to come before all others. In the first years of the elimination of economic discrimination, they would undoubtedly be swamped by demand. The great universities already admit, of course, all the students they can serve and a high percentage of the best qualified who come within their reach. The commitment advanced here would greatly enlarge the constituency of the entire system of higher education, however, as well as increase the clamor at their gates. Open admissions at the City University of New York provides a suggestion of the diversity of people now invisible to the universities who would seize the opportunity of higher education if offered.

No suggestion has been made here that there be any qualification as to age. If some substantial portion of the population decided to devote its energies to lifelong education, that would be an appropriate use of the abundance of industrial civilization. Along with it would come revision of much else in the fabric of values that distinguishes work from leisure. That could not help but affirm the priority to be accorded to the pursuits of scholarship and science.

At risk in such revolutionary proceedings would be the precious value of diversity among our institutions of higher learning. This value is already at risk in the waning of the power of private endowment. Against the pressures making for homogeneity, public funding can be managed so as to foster diversity. Stipends for students need not be the only entry in the ledger. Institutional grants for operations and for capital development can be laid out on various terms, by formula and by competition, to serve equity and encourage initiative. Even as an apple of discord, the institutional grant would endow the community of scholars in each university with a centripetal economic interest; it would bring home the setting of priorities, especially in science, from Washington. Project grants would find their place to induce enterprise on urgent public needs and issues, but with the bargaining position of the scholar and the university fortified by institutional funding. The American federal system, moreover, provides more than one public treasury for each university. And there need be no law against private benefaction. The fund-raisers for our increasingly public privately endowed universities must be impressed to see the University of California appear regularly among the first five beneficiaries of private philanthropy.

Arranging public financing to secure diversity, as well as all the other desirable qualities implied by institutional autonomy, will call for a great deal more imagination and ingenuity than have been displayed by the administrators and spokesmen of higher education thus far. It is not enough to express scorn for "politics" and "log-rolling." In the end, the project-funding system did not insulate its recipients from politics. The privately endowed universities of the United States are the only universities of world distinction not supported by public funds as public institutions. The institutional arrangements, the public policies, and the *mores* that sustain the independence of the great institutions in other countries deserve close study.

There will be no models to copy. The feudal past and other springs of authority fortify the universities abroad. In this country the citizen will have to learn that his sovereignty is secured by the autonomy of his universities.

REFERENCE

1. In "The Treason of the Clerks," Proceedings of the American Philosophical Society, vol. 109, no. 5, I have dealt at length with the underside of the questions considered here.

RICHARD W. LYMAN

In Defense of the Private Sector

IN HIGHER EDUCATION, the private sector held steady for years at about one half of total enrollments in the United States.* Then around 1950 its share began to decline. By 1972 it had fallen to 24 percent and there is no end in sight. Perhaps, incidentally, we in the Western states can bring some comfort to Eastern colleagues on this score. We have never held so prominent a position in terms of enrollment in our region as you have in yours, yet we have survived. In California, for example, the private sector's share of total enrollments in higher education is only 10 percent. But we do not feel as if we are living on the brink of institutional extinction.

Yet it is difficult for Americans to adjust happily or without loss of morale to a situation of no growth—and in relative terms, at least, of decline. Living in a society in which Growth has long been held synonymous with Progress; in which no problem was too difficult provided that there was always more each year in the way of resources to work with; in which it has been considered a truism that if you are not advancing, you must be retreating; and if you are retreating, you must be defeated; and if you are defeated, you must be disgraced; in such a society it is disconcerting, to put it mildly, for those of us in private colleges and universities to find ourselves in more or less straitened circumstances, and probably occupying a declining share of the enrollment turf, as far ahead as the eye can see.

We know that our hearts are pure and our merit is great. Why does not everyone else recognize this and leave us alone—or rather, leave us unmonitored but well supported, so that we are free to make the enormous contribution to American society that we have it in us to make?

The answer in brief is two-fold: First, we are swimming against very powerful tides. Second, our case for survival and support is a rather subtle one and difficult to make.

First, a word about the tides. They are running against the private sector in American life generally. The watchwords are equality and cost-effectiveness, or (if you prefer) rational planning for the allocation of resources.

There is nothing new about egalitarianism in this country. Tocqueville in the early nineteenth century already saw it as the hallmark of democracy in America. But today it is assuming new forms and taking on renewed vigor.

It is powerfully—and entirely understandably—reinforced by the long overdue drive toward equitable treatment on the part of blacks and chicanos and other ethnic minorities, against whom the walls of prejudice stood for too long invulnerable—a drive now joined by a minority so large as to be a majority, the 51 percent of Americans who are female.

Partly as a result of frustration at the slowness of our progress on this front, however, a tendency is rapidly developing which, as Daniel Bell and others have pointed out, alters quite drastically the *meaning* of the search for equality. According to this new tendency, equality of opportunity is not enough; what must be guaranteed is equality of result. More and more Americans are not satisfied with the ideal of an equal start in life; they demand an equal finish as well.

One is irresistibly reminded of the Caucus Race in *Alice in Wonderland:*

> "What *is* a Caucus-race?" said Alice; not that she wanted to know, but the Dodo had paused as if it thought that *somebody* ought to speak. . . . "Why," said the Dodo, "the best way to explain it is to do it." First it marked out a race-course, in a sort of circle ("the exact shape doesn't matter," it said), and then all the party were placed along the course, here and there. There was "One, two, three, and away," but they began running when they liked, and left off when they liked, so that it was not easy to know when the race was over. However, when they had been running half an hour or so . . . the Dodo suddenly called out, "The race is over!" and they all crowded round it, panting, and asking "But who has won?" This question the Dodo could not answer without a great deal of thought, and it sat for a long time with one finger pressed upon its forehead . . . , while the rest waited in silence. At last the Dodo said "*Everybody* has won, and all must have prizes."

Perhaps equally threatening is the newfound passion for rationalizing the allocation and use of resources throughout our society. At both the national and state levels, a new educational planet has been discovered in recent years. It is called "postsecondary education." It is a diverse sort of place, in which proprietary schools of hairdressing or massage techniques rub elbows with Yale and Berkeley, Cal Tech and the City University of New York.

The mere sight of so vast and miscellaneous a category of institutions was bound to set bureaucratic mouths to watering and legislative eyebrows to twitching. It was bound, in short, to whet the ever-present appetite for controlling, in the guise of coordinating. And so we are seeing the creation of new authorities, armed with fresh powers of investigation and recommendation, sometimes even outright implementation, whose task it is to eliminate inefficiency and duplication throughout the private and public sectors alike. These so-called "superboards" oversee not only the tax-supported institutions of higher education but the privately supported, and can shape or limit the latter virtually as if they were parts of the state system.

No one denies the need for a reasonable degree of coordination, or for care and thoughtfulness in the allocation of resources. Yet the private sector—in its great variety, in its lack of direct accountability to publicly elected legislative bodies—stands tragically vulnerable to the seductive logic of uniform cost accounting, coordination of objectives, and standardization of policies and practices.

Our defense is overwhelmingly dependent upon two main lines of argument, each of which has its limitations. More accurately—for I really believe that our case is a strong one—both of these lines of argument are in one way or another difficult to get across to the general public.

First, we must perforce argue from the overall advantages to society of pluralism. We believe—and there is lots of evidence to support us—that a society is more likely to be open and free, that the individual citizen's capacity to stand up against the otherwise overwhelming force of modern government is substantially strengthened, if the state does not possess a monopoly of service to the public; if side-by-side with great public school systems there are strong independent schools; if competing with the great publicly supported universities there are fine privately endowed ones; and so on.

The classic defense of the pluralist society, I suppose, is that of Edmund Burke, toward the close of the eighteenth-century, stimulated (or provoked) by the French Revolution. The revolutionaries, Burke argued, in their zeal for liberty and equality in the abstract, were busily tearing down all of the intermediate corporate bodies and parochial loyalties that stood between the individual and the State. These "little platoons," as Burke called them, were attacked in the name of the most high-sounding principles: down with feudal distinctions, down with the special privileges of the guilds and the obscurantism and greed of the eighteenth-century Church. But the result of thus wiping the slate clean, Burke concluded, was to leave the individual, defenseless and alone, confronted by the power of an all-encompassing State, which was theoretically his, but over which he had in actuality little or no control.

The message was in some ways a whisper thrown into the teeth of a hurricane. Yet it has startling contemporary relevance. We who are responsible for the continuing health of our "little platoons"—and even the greatest of the private universities are "little platoons" when matched against the dimensions of state-supported higher education—we have our work cut out for us, and we do not have a Burke to lend eloquence to our cause.

The difficulty is that the argument is so intangible. We know what it is like to live in a society that *has* the private sector; few of us have thought much about what it is like to live in one that does not. For the most part we have not pondered deeply the loss of social energy and the diminished quality of life that accompany the absence of private foundations, privately supported educational institutions, and independent social and cultural organizations. Thus, the cry of "Pluralism in danger!" is likely to produce nothing more than a stifled yawn. Compared with easily grasped concepts such as "equality" and "efficiency," pluralism needs more than a skillful press agent to hold its own.

Our other principal line of argument suffers from almost the opposite difficulty. It relates to the *particular* contributions or virtues of *particular* parts of the private sector. It is, after all, our proudest boast that we are full of variety, individually unique. This is, in fact, the other side of the pluralist coin. Our contribution derives from the fact that we are not an easily-generalized-about mass. Haverford College is the only Haverford College there is, and though it may resemble Amherst in some ways and Swarthmore in others, it is not a duplicate of either, or of any other institution one could cite. Yet the weakness inherent in this line of approach is also clear. Divided we may all too possibly fall, and yet unless we stay divided to some extent, unless we cherish our differences, we lose our reason for existence.

Faced with all this, what can we do to help ourselves?

Whatever the difficulties, we must make the case for pluralism as best we can. We might well begin at home: How well do we do at providing opportunities for our own students to learn about the distinctiveness of this aspect of American society? Do they know that only in Britain and in some countries of the erstwhile British Commonwealth is there anything like the blend of public and private institutions serving the social good that exists in this country?

How much attention does this fact—and its consequences—receive in our own courses that deal with the history, structure, and performance of social institutions? I find that thoughtful Americans are often taken by surprise when they travel abroad and discover that Edmund Burke's "little platoons" are largely nonexistent in one country after another. If the unique strengths of a pluralist society are little known and seldom recognized among our own students and graduates, how can we expect that the public at large will understand them? Over and over again, I encounter evidence that students at Stanford do not see the importance of the independent sector in higher education. Nor do they see the connections between that sector and the other branches of privately supported educational, cultural, and social enterprise, ranging from the United Fund to the Urban League, from the Metropolitan Opera to the Sierra Club.

Obviously I am not proposing that we embark upon a program of indoctrination, which would imply uncritical applause for all that can be labeled "private sector." But when sheer inattention and lack of information are so clearly part of our problem, we cannot afford to neglect opportunities for education in this subject which is so vital to our institutional well-being.

We can also understand one another better, and the interests and values we hold in common. Admittedly, at one time there was in a sense too *much* solidarity, too *much* cozy togetherness within the private sector. The notorious "old boy network" existed as a web of relationships blocking the path toward genuine equality of opportunity. Few such relationships remain. Salvation for the private sector is not to be found in their restoration, however.

We must be prepared to demonstrate that we have in fact lived up to our claims, that we do care about excellence and individuality, not as catchwords but as the guiding principles of our institutional lives. Under pressure of declining enrollments, this will often be tough to accomplish. But one virtue that ought to be within the reach of independent institutions, be they old or new, famous or obscure, is that of rigorous self-definition. Excellence need not always wear the same face. There are excellent ways to further the learning of the not-so-bright, as well as excellent ways of encouraging geniuses. But we of the private sector ought to do everything we can to avoid complacency and self-delusion on this score. It would be tragic to allow market pressures to do the job of standardizing us even before the superboards and regulatory powers of the state can do it. To put it in a single sentence, if the private sector does not cherish excellence and individuality, in season and out, it will not *deserve* to survive.

Further, we in independent educational institutions must retain our capacity both to innovate and, where it is important to do so, to resist innovation. Again, it is a matter of our relatively greater freedom to define our own objectives for ourselves, without waiting for direction from public authorities.

It may well be that what I have said errs on the side of pessimism about the forces that threaten us, and about our own capacity to respond creatively and successfully. I do not apologize for that; I am sometimes tempted to agree with H. L. Mencken's sour prediction that "the last sound to issue from a human gullet will be three cheers from the last optimist." But we in the private sector do have, after all, some potent advantages. We may yet find ourselves like clever and adaptable mammals, well able to survive while Brontosaurus Rex dies out for lack of those very qualities. People everywhere are yearning for the chance to feel significant as individuals. They are yearning for institutions built on a human scale, and responsive to human needs and aspirations. Is not this precisely what we have believed in and worked for, long before it became so popular to do so? Perhaps for all of the formidable difficulties we face, we should look at our predicament today in the immortal words of Pogo: "We are faced with an insurmountable opportunity." Or, if you prefer history to fiction, we might recall the exclamation of the great French commander in World War I, Marshal Foch, at a moment of critical difficulty when everything seemed to be going against him:

"My center is giving way, my right is pushed back—excellent! I'll attack!"

[°] This essay was adapted from remarks made to the General Session of the 1974 Annual Conference of the National Association of Independent Schools and the California Association of Independent Schools, March 21, 1974, in San Francisco.

VERNON E. JORDAN, JR.

Blacks and Higher Education—Some Reflections

THE AMERICAN UNIVERSITY system is also an important economic sector, a fact frequently overlooked by academics. It is the source of over 700,000 teaching and administrative jobs, and it generates well over $5 billion of economic activity—more if we include construction costs as well as staff payrolls and institutional purchases. It is useful to see the system of higher education not only in terms of advanced schooling, but also as an economic entity with important implications for minority employment and opportunities.

As an economic entity, the universities have proved as discriminatory as any other business and a good deal worse than many. College and university faculties are over 95 percent white and high-ranking black administrators are just as rare as high-ranking corporate officers. The smugness and self-righteousness so often shown toward industry by some academics is not justified since colleges and universities have proved as discriminatory as the most recalcitrant and backward corporations.

The academic community appears to have elevated concepts of "merit" and "excellence" to the heights of mythology in its effort to preserve the prerogatives of white males. Faculty jobs are as often distributed on the basis of the "old boy network" as not, and since blacks are largely excluded from the personal relationships that lead to such job offers, they are also largely excluded from teaching jobs. Another barrier to blacks is the prestige attached to degrees. The half of black college graduates from predominately black colleges are at a disadvantage because department chairmen are often fixated on Ivy League degrees. Personal "merit," then, is often in the eyes of the beholder, eyes all too easily impressed by paper documents and blind to personal skills and attributes.

"Affirmative action" is a phrase that sends chills down college administrators' backs. It is a great leveling agent, equalizing union leaders from the construction trades and college presidents, since both groups adopt defensive postures and angrily denounce "quotas." The record is replete with instances of universities stalling in the face of HEW requests that they comply with the law and initiate programs to increase minority employment. These requests are the essence of moderation. HEW asks colleges and universities to survey their employment practices, come up with a census revealing minority employment and pay scales, and then correct any inequities. Generous timetables are granted, often up to five years, not counting the university-inspired delays. Standards are not expected to be compromised. As J. Stanley Pottinger, HEW's civil rights director, stated: "Our sole interest is to ensure that . . . employment criteria are not invidiously discriminatory on their face, and are implemented in a non-discriminatory manner." And he emphasized that hiring criteria are to be determined by university officials.

"Quotas," then, are a phony issue, a red flag to divert attention from the real issue of discrimination by falsely categorizing reasonable numerical *goals* and generalized intentions as rigid mathematical formulae. Nevertheless, if numerical goals and timetables are not formulated, then, as one commentator has stated, "the future will resemble the past." To rely on administrators' good will and self-policing would ensure that no changes are made in the widespread discrimination that exists. Self-styled "color blind" policies would leave the buddy system of hiring intact and continue to freeze minorities out of the job picture. So long as blacks constitute a smaller proportion of college graduates and holders of advanced degrees, they will necessarily constitute a smaller proportion of college faculty members. There is no reason to hire unqualified blacks, just as there is no reason to hire unqualified whites. But within the necessary constraints of the limited job pool, there is no reason why qualified black candidates should be consistently passed over in favor of whites chosen because of the school they went to, the professors they know, or the advantages they hold that are denied to others.

It is unseemly for those who regard themselves as the repository of our society's values and knowledge to maintain racial barriers to admission to faculty and administrative jobs, to insist on higher standards for minorities than apply to whites, to attempt to circumvent federal antidiscrimination laws, or to regard their positions as more privileged than those of other sectors of our society. All of these attributes are endemic to academia today, and none has a place in an open society. Elites wither and die when they are not invigorated by fresh blood, and that holds just as much for academic elites as for political and economic ones.

Item: A study conducted by a group of Harvard professors, headed by a Harvard graduate who attended top prep schools, has discovered that education has only a minimal impact on earnings.

Item: A Census Bureau report states that college graduates earn $279,000 more than high school graduates over their lifetimes. "There are monetary gains associated with successfully achieving each identifiable educational plateau," the report states.

Like it or not, the academic community must face the fact that the college diploma is no longer an accessory to indicate a "finishing" process for upper- and upper-middle-class individuals. It is now a necessity for many poor and working-class youths hopeful of economic security. A *New York Times* report of a March conference of university presidents quoted a participant as bewailing that the university had changed "from an ivory tower to a public utility." The *Times*' reporter wryly commented: "There were few members of minority groups and women at yesterday's conference."

There was apparently little questioning that "the ivory tower" is the rightful role of the university. Although I appreciate the need for a community of scholars advancing human knowledge while cushioned from the clamor of daily concerns, institutions of higher learning do not exist as secluded monasteries. They are instruments of economic and social mobility whose claim on the public and private purse implies societal usefulness and engagement. Nor is there any inherent mandate to keep such proposed "ivory towers" solely in the hands of white males. The functions and practices of institutions of higher learning have been responsive to their social environments and have changed drastically throughout history. I know of no natural law that decrees they have reached such a state of perfection today that they should be insulated from further changes, especially when those changes would leave them intact with the one exception that minorities would have the same access to their benefits as are presently enjoyed by the middle-class whites whose prerogatives are often financed by taxes on the poor and the black.

Many colleges went through the motions of recruiting black students in the late 60s and early 70s. Some, appalled by the lack of blacks among their students, were sincere in trying to fulfill what they correctly perceived as their moral obligations. Others were fearful of losing federal research contracts. Still others enjoyed a brief fling of social consciousness in the wake of national concern over ghetto disorders. For many, the admission of black students represented a bracing thrust into the "real world," and they engaged in a burst of romanticized overcompensation, preferring to select "authentic ghetto types" even if they were unqualified or needed remedial work the college was not about to offer. Their scorn was reserved for those black students who studied hard, did not practice self-segregation, and were not overly militant. "She's not really 'black,'" a department head at a prestigious university told an Urban League official, referring to a graduate student who was ambitious and who racked up high grades through hard study.

Now the bloom is off. Black students are less of a novelty, and white faculty and administrators, like other middle Americans, have tired of the effort to change institutions and provide equal opportunity. Black enrollment at predominately white institutions has peaked and is falling off.

The entering class of freshmen in fall 1973 was 7.8 percent black. A year earlier it had been 8.7 percent black. Enrollments of other minorities dropped too, the slack being made up by students from families making over $30,000 per year. The "merit" system as applied to college entrance appears to be restricted more to the ability to pay than to other factors.

Some colleges cite lower federal aid funds as one reason for the drop, although I did not see any parade of college presidents trooping up to Capitol Hill to demand more generous financial aid to students. Closer to the mark may be a *Wall Street Journal* report that there is "a lack of pressure on the schools." In the absence of outside pressure from alumni, public officials, students, and faculty, potential black students are passed by. One college official has been recorded as saying: "The riots are no more and the pressure is off." And the *Journal* quotes "a recruiter at a prestigious Southern university" who reports that administrators "told me their only commitment was to use government funds. They never had any real commitment."

The cost of attending college is escalating rapidly, raising the prospect of a class system of education with the poor shut out because of inability to pay. The cost of room, board, tuition, and pocket money now runs to over $4,000 per year. That represents a little less than two-thirds of the median black family income and exceeds the total income of a third of all black families. The cost of obtaining a higher education is well beyond the reach of the majority of white families as well. Like just about every item on the list of reforms backed by blacks, increased federal aid to enable the less affluent to continue their educations will benefit far more whites than blacks.

Open admissions programs demonstrate the vast benefits reaped by white students from supposedly "black" programs. The introduction of open admissions in New York City's public colleges and universities led to the first major influx of Italians and other white ethnics in the history of those institutions. The student composition of the city's four-year colleges reveals that, compared to the national average, their students are more likely to be black or minority-group members, to have had higher high-school grades, to come from poorer, less well-educated families, and to live in working-class neighborhoods. Open admissions, then, is an engine for social mobility without necessarily compromising the quality of a school's intake. For example, City University freshmen whose high-school average was only C+ or less amounted to 34 percent of the entering class in two-year colleges and only 9 percent in four-year schools. By contrast, the average national figures were 45 percent for two-year schools and 21 percent for four-year colleges. Still a subject of controversy, perhaps because of the reluctance of faculty to deal with a student body of altered ethnic composition and life style, there is no evidence that CUNY's high academic standards have suffered.

Black students on white campuses are victims of destructive myths that often distort the degree of alienation and separatism that exists. The typical picture of the black student as being an angry militant refusing all contact with whites and obsessed with his black studies courses has little relation to reality. A survey by the Educational Policy Center found that although about half feel themselves victims of racial discrimination, the majority say that race is not a factor in choosing friends and activities, and only 15 percent would prefer to live in all-black or minority housing on campus. Although most report their previous schooling ranged from poor to fair, 85 per cent maintain grade averages of C or higher and a solid majority plan to attend graduate school.

Drawing on reports from the American Council of Education, federal statistics, and research analysis of various statistics and studies made in recent years, the National Urban League's Research Department has come up with a rounded picture of students enrolled at predominately black colleges, a picture that shows ambition and determination to succeed in the face of heavy odds and demeaning stereotypes. Almost two-thirds (61 percent) of the men and more than two-thirds (69 percent) of the women who entered black colleges in 1972 planned to continue beyond the bachelor's degree. In all colleges, somewhat over half (54 percent) of the men and only 43 per cent of the women planned graduate work.

Increased interest in the pursuit of a business career is obvious among freshmen in black colleges today. Whereas only 19 percent of the men and 9 percent of the women indicated business as their major field of study in 1969, 26 percent of the men and 22 percent of the women planned to major in business in 1972. This trend toward a business career is also apparent in their choice of a future occupation. For example, in 1969 only 18 percent of the black male freshmen planned to be businessmen, but in 1972, 24 percent planned to go into business.

Yet blacks are still underrepresented in the sciences. Only one third of the black male freshmen indicated that they intended to major in the biological or physical sciences. Women freshmen, in general, appear to be moving away from an overwhelming emphasis on the humanities to increased interest in the sciences. Those in black colleges are making much of the shift from the humanities into business majors.

A change is also apparent in women's career plans. Twenty-two percent of the women entering black colleges and 13 percent of all women freshmen indicated career choices in the higher professions in 1972, whereas in 1969 only 14 percent of the women entering black colleges and 8 percent of all women freshmen indicated these career choices. Thus, despite the popular belief that large numbers of black students are majoring in black studies programs, the strong shift toward business careers indicates that the educational and occupational plans of most black college students are pragmatic.

The black student is essentially a very practical person. Two-thirds or more of those entering black colleges want to be authorities in their field, help others in difficulty, and develop a philosophy of life. Over three-fourths agree that the primary benefit of college is monetary, and almost two-thirds have as one of their objectives to be well-off financially. This emphasis on practical success is much more apparent in the black students than among students in general.

That these students do not want to be given their degrees without earning them is evident from the fact that three-fourths of them feel that there should be the same standards for everyone. Although 69 percent want the disadvantaged given preferential treatment in admissions, only 55 percent felt that public institutions should adopt open admission.

In other matters, their attitudes are similar to those of students in general: all strongly believe that women should have job equality; that government is neither controlling pollution nor protecting the consumer; that the wealthy should pay more taxes, and so forth. Interestingly enough, two-thirds of the students in institutions of higher learning, black as well as white, had as one of their chief objectives the raising of a family.

This picture of the black student bodes well for the future, because the immediate need is for large-scale entry of blacks into positions of business and corporate power and into the professions. Blacks are absent from the ranks of key professions to such a degree that even the most determined opponent of "quotas" must understand that discrimination is endemic. Furthermore, unless black people enter these professions they will be permanently condemned to second-class economic and social status in the United States. Only 2 percent of all accountants are black, less than 1 percent of engineers and lawyers, and 2 percent of doctors, dentists, and economists. Blacks are prime subjects of urban and regional planners, but less than 5 percent of such planners are black. A list of dozens of professions ranging from actuaries to astronomers shows that blacks are 2 percent or less of the national total in nearly all.

While the real issue for blacks is increasing access to higher education and entering business and the professions, the media have been obsessed with the more sensational aspects of black-studies programs. These programs are giving every indication of overcoming initial problems and settling down to become useful areas of study for a small minority of blacks whose career goals may demand expertise in interdisciplinary programs in black and African history and culture. Their continued existence and their ability to endure may be dependent upon the degree to which they can exemplify academic excellence and reject political and ideological manipulation. Jacob Katz, an Israeli scholar, writing in *Commentary* on the proliferation of Jewish-studies programs on campuses around the world, has raised questions of vital importance to blacks. Change "Jewish" to "black" in the following quotation, and you have an important statement on the durability of black-studies programs:

> This quantitative expansion raises the question of the quality of the achievement. In other words, is the work being done by Jewish historians, for example, on a level with that of general historians? It is a question that has a social as well as a scholastic dimension, for the

emancipation implied in the acceptance by the academy of Jewish studies is genuine and meaningful only insofar as it is grounded in authentic scholarship. In cases where departments and courses in Jewish studies have come into being for non-academic reasons—for instance, to accommodate the sensibilities of local Jewish communities—that acceptance, and the larger social acceptance it implies, may well be fictitious, and this in the long run can be worse than not being accepted at all.

Most crucial to the black community and the nation, is the continued survival of the black colleges. Their doors were open when white colleges would not allow blacks in, much less welcome them. Their doors are open today to masses of black students who cannot afford the high-cost predominately white institutions. The bulk of them are in the South, where the majority of black people still live. Generally, their students are poorer than those attending predominately white colleges. Today, as in the past, the black colleges provide the training and dedication offered reluctantly, if at all, by their more prestigious brother institutions. It is the black colleges that have graduated 75 percent of all black Ph.D.'s, 75 percent of all black army officers, 80 percent of all black federal judges, and 85 percent of all black doctors. These institutions, then, have profoundly influenced the development of black Americans, and there is no doubt that they will continue to do so.

The black college is the only major American institution whose necessity is questioned by large numbers of people. It is the only American institution subjected to the suggestion that it self-destruct. People who see no problem with the maintenance of a predominately Jewish Brandeis or a Catholic Notre Dame find dozens of reasons to object to a predominately black Howard or Morehouse. And yet the black college represents to black students what other schools traditionally associated with a particular religious outlook or ethnic group represent to other Americans—the availability of the choice of going to a school that embraces their past, their concerns, and their values.

Given the importance of these black institutions to the black community, given the outstanding job they are doing in educating young blacks who have no other alternative as well as those who prefer such schools, and given their function as a repository of black intellectual, cultural, and educational resources, their preservation and improvement must rank high on the list of national educational priorities.

GERALD GRANT AND DAVID RIESMAN

An Ecology of Academic Reform

It is difficult to understand the passions that gripped the American university in the last decade without making a distinction between the pedagogic and political left. The movements of protest began, as they did at Berkeley in 1964, with extramural aims: first, race; then, war. The university immediately came under attack for its alleged complicity on both scores, but the issues of educational and curricular reform were almost everywhere secondary. Educational issues were injected into the trajectory of the Free Speech Movement more for tactical than substantive reasons as radical leaders sought to build coalitions of protest. At Berkeley as elsewhere, political protest preceded and partially served to evoke the pedagogic left, which came to have a life of its own, frequently helped along by faculty and administrators who hoped that satisfying educational complaints would deflate radical political demands. By the end of the decade, demands for educational reforms sometimes overarched political concerns.[1]

Why was there so much resonance to the rhetoric attacking what came pejoratively to be called the multiversity? Did something in the experience of this particular generation of students make it possible for some of the most privileged young people in the world to believe themselves oppressed? We believe there was, that the demographic bulge and intensified academic pressures combined to produce competitive anxieties that matured into deep resentments. These resentments contributed to political protest, although they do not explain or account for most of it. But the resentments do explain a great deal about the kinds of educational reform that ensued.

Now that the tide of protest has receded, we can ask whether the pedagogic left succeeded in creating more than the fugitive experimental programs (sometimes called colleges) that one could find on and off the campuses at many colleges and universities in the late-1960s. To state our tentative conclusion at the outset: we think that the most widespread impact of the pedagogic left was to bring about a considerably greater degree of autonomy for the students; the student customers are freer than before to shop, to pick and choose, to move at their own pace. In that sense, these most popular reforms—contracted majors, free-choice curricula, the abolition of fixed requirements—did not seek to establish new institutional aims, but to slow the pace and to expand the avenues of approach.

In this essay we contrast these more popular reforms of the 1960s with four reform movements that we have somewhat awkwardly labeled telic reforms. These reforms were expressed in ideal-typical or exemplar colleges that set themselves up against the emerging ideals of the research-oriented university. Each of these reform movements sought to limit the hegemony of the nascent academic revolution and to serve different or neglected ends of education, as we have indicated in Table 1. Three of these reform movements precede the 1960s by several decades, but the

Table 1
An Ecology of Academic Reform

Type		*Motivations for Choosing*	*Ends*	*Model*	*Norms-Core Values*	*Process-Style of Ed.*	*Historical Roots*	*Authority*
THE "ACADEMIC REVOLUTION" or the rise of the "MULTIVERSITY"		Certification Employability Licensure	Knowledge Expertise	Bureaucratic at low ends of prestige ladder; stratified collegial at top	Cognitive rationality — Meritocratic	Scientific method	German University	Expert peers
THE POPULAR REFORMS		These reforms were not focused primarily on redefining the ends of education or inventing new institutional models, but were characterized by increases in student autonomy allowing students greater flexibility and choice in pursuit of their goals within the multiversity.						
THE	*Neo-Classicals*	To be civilized; to enter aristocratic intellectual culture	Virtue: To know the Good	Community of Scholars	Faith in classical texts; Platonic idealism —aristocrats	Socratic; modeling the elders	Plato's Academy	Texts, wisdom of elders
TELIC	*Aesthetic-Expressives*	To release and develop creativity, to live in artistic community	To foster creativity	Bohemian artistic community	Creative expression— Refined sensibility	Studio-apprenticeship/ informal seminar	Bauhaus Bohemias: Paris, Bloomsbury, Manhattan	Aesthetic sensibility of masters
REFORM	*Communal-Expressives*	To attain acceptance, to express feelings, obtain group support	Social harmony	Tribal family	Affective loving support egalitarian-humanist	Encounter T-Group ritual Interpersonal feedback	National Training Laboratory, Utopian communities,	Feeling and emotion
MOVEMENTS	*Activist-Radicals*	To participate in social change; to act against injustice	To generate radical critique; to train "change agents"	College as political instrument or support base for political movement	Political power and influence — egalitarian-populist	Engagement, field study activist-scholar	Labor education movement	Ballot box, other forms of political power

model we have called the communal-expressive was intimately linked to developments of the pedagogic left, while the activist-radical model was transformed in the 60s by a fusion of the forces of the pedagogic and political left. The popular reforms of the 1960s—or the increases in student autonomy—arose out of a response to students who sought relief from the intensification of the norms of the academic revolution, although they still wish for the most part to enlist in it.

The University College or Multiversity Ideal

When Christopher Jencks and Riesman sent *The Academic Revolution* to press in 1967, they meant by "revolution" the crescent hegemony of the academic professions over previously influential parties: trustees and legislators, students, administrators, religious denominations.[2] That book, like others of its genre, noted that the research-oriented American university was producing the faculties for collegiate institutions and took for granted the way in which competition among the colleges led them to imitate the major university model.[3] But because of their inevitable resentment and envy of the academic vanguard, many faculty members trained under its auspices have shown resistance to the model, and their ambivalence as well as lack of resources limited the momentum with which that model could be imitated.

The major Roman Catholic institutions had by 1964 moved toward the dominant secular model. Vatican II served to fragment residual resistance among the lesser Catholic colleges to the processes, already well underway, creating a separate but nearly equivalent Catholic system. There are few Catholic colleges left that traditional Catholic parents would consider, either in ethnic or liturgical or any other terms, "Catholic" by their lights.[4] Most colleges founded by Protestants had long since given up any strong denominational ties, although there are still a few in the hands of fundamentalist sects committed to Biblical literalism and anti-modernist piety—colleges which, like Protestant fundamentalism in general, continue to show vitality when the major more liberal denominations are losing their hold. Some of these colleges, and perhaps a few of the smaller Catholic women's colleges, exhibit a spirit somewhat similar to the reforms of the 1960s—namely, a concern for community and a rejection of competition. At Brigham Young University, for example, there is a noncompetitive atmosphere of warmth and fellowship characteristic of the Latter Day Saints, while at the same time a strong this-worldly spirit of competition which has made for the success of Mormons in every field of endeavor, including higher education.

Until the 1920s, the university college model, with its combined English, Scottish, and German origins, was neither strong enough at the center nor extensive enough at the periphery of American higher education to incite rebellions that might establish contrasting models of higher education other than those affiliated with denominational groups.[5] Furthermore, in the absence of a strong socialist movement, no colleges devoted to working-class or socialist ideals were founded; rather, the YMCA and Catholic and Protestant groups founded a few colleges in the major cities to help give working-class children a start in life according to traditional American belief in equality of opportunity. The Wobblies started no colleges. Indeed, in the area of the Northwest where the Wobblies have been something of a presence, Reed College began in 1911 as perhaps the purest expression of the university college ideal with no concessions whatever to the gentlemanly collegiate, the evangelical Christian, or the explicitly vocational.

The Anti-University Movements of the 1920s

In the period after World War I, several labor colleges emerged, such as Brookwood, Commonwealth, and, as an urban radical institution, the Rand School of Social Science.[6] These schools sought to prepare union leaders rather than people who would get out of the working-class through upward mobility. With the Rand School of Social Science, as in some measure with the New School for Social Research, the aim was more intellectual and less activist; for the faculty, these were scholarly institutions and were not intended to provide a fortress for direct political activism. In a way, Brookwood and Commonwealth were for the labor movement what Berea was intended to be for Appalachia: a place which would help students from a deprived part of the society return to it with more training and a strong sense of mission.

But there did develop in the 1920s the re-founded Antioch College of Arthur Morgan which in the 1960s was to become perhaps the most visible and highly charged base for political activism of any college in America. Antioch College, as it later became, represents the ideal-typical instance in Table 1 of the activist-radical college. Its commitment to extramural action began in the 1920s with its focus on the co-op program by which Antioch students spent alternate terms on and off campus in work programs. These programs were not, as with nonaffluent students at Northeastern or Cincinnati, designed to help them finance their education, but, in fact, prolonged their education at parental expense in order to help immerse them more fully in the dilemmas and contradictions of American life. Although the work program even to this day has not been fully integrated into the Antioch curriculum, the ideology of the program under the aegis of Arthur Morgan reflected an attempt to get away from bookishness, to provide other mentors for students than scholarly faculty, for whom, in fact, Arthur Morgan had an almost philistine lack of respect.[7]

No viable educational enterprise serves but a single end, no matter how monolithic its self-image or the caricatures of it. Thus, the increasingly regnant university college did not serve wholly to turn out either elites to serve an American "establishment" or scholars to advance knowledge through cognitive rationality.[8] Their ideals were more fuzzy, and those students they turned out were enormously diverse. But few would have seen themselves as turning out change-agents, which is how some branches of Antioch might be described today.

The Neoclassical Movement

St. John's College in Annapolis was also an instance of re-founding of an old and foundering institution. It is the ideal-typical example of the colleges we call neoclassical since it sought to restore the classical curriculum with new intensity and purity. Like the other antiuniversity experiments, it was basically dominated by a moral imperative: a vision of human unity, of the good life in a Platonic mode. Thus, in spite of the curriculum of Great Books which came to characterize it, it should not be seen as "purely academic."

Scott Buchanan, the intellectual leader of the new St. John's, had come in 1937 from Robert Hutchins' college at Chicago, where he had taken part in an effort to discover a true curriculum of the liberal arts, which some saw as a return to the ideals of the nineteenth-century liberal arts college. Buchanan was sympathetic to the disciplinarians' view that the faculties of mind were best sharpened by the classics, mathematics, and philosophy, but he aspired to a vision of the liberal arts that he felt the nineteenth-century colleges failed to realize.[9] He saw himself as a radical not a reactionary, and the transcendent ideals that Buchanan sought led him back to Plato. Buchanan was influenced by the general education program that had been developed earlier at Columbia College, which moved in this direction in terms of syllabus, but hardly at all in terms of so magisterial a moral intention.[10] For him, the trivium and quadrivium were part of an underlying unity of knowledge: a monism to be attained by the Socratic dialogue.[11] The end of knowledge was virtue: to know the good, and then, in fear and trembling, to live by it. The core values are a faith in the classical texts, the so-called Great Books, and a belief that virtue arises from submitting oneself to their tutelage and from grasping their continuing vitality and import.

If the ideal of the multiversity lies in the scientific method, in which the young teach the old by extending the frontiers of science, the ideal at St. John's is that the wisdom of the elders molds the young in a Socratic process. It logically follows that at St. John's the scale of pay is fixed by one's age; there are no professional ranks, and neither degrees nor teaching experiences elsewhere are taken into account.

The movements of opposition caricature not only each other, but perhaps inevitably the dominant university styles as well. The neoclassicals regarded and still regard the universities and the conventionally departmentalized colleges as vulgar and technocratic. They envisage the universities as sterile, exploiting knowledge for merely technical ends and preparing students not for the "calling" of life, but for superficial, though profitable, vocationalism. They underestimated the diversity of what later came to be called the multiversity, and also its incremental inventiveness.[12]

Students were invited to come to St. John's College not for certification or entry into a meritocratic elite, but in order to become more civilized, in order to join an aristocratic great chain of being, stretching back through the medieval university to Plato's Academy. Seen as an exercise in academic pluralism, St. John's College appears admirable and very much worth preserving. But as with other minority movements, the penalties for the individuals serving as its acolytes, either tutors or students, may be considerable. Mastering the St. John's program in order to teach it takes so long and demands so many diverse capacities that it renders tutors relatively unemployable at major universities unless they have somehow managed to retain their former specialty. The graduates of St. John's College, an institution which in Scott Buchanan's words was designed to produce cultural misfits, are not rendered unemployable, but have in fact done well at law, teaching, business, and other things. America itself is sufficiently pluralistic so that their St. John's virtues are not their undoing, but St. John's is hardly the road toward "making it." On the contrary, to think of college as a launching pad for one's career would stamp one as unworthy at St. John's.[13]

It is almost impossible to think of an enterprise like St. John's College existing under public auspices. For one thing, there is the crucial question of scale. Anything large would be wholly antithetical to the ideal of a community of scholars. Rather than let its community grow beyond four hundred students, St. John's founded a second campus in Santa Fe, New Mexico, in 1964. So far as we know, only in the University of California system has anything like St. John's College been given houseroom without being swamped. We have in mind the experimental college at Berkeley, started by Professor Joseph Tussman, who, like Scott Buchanan, had come under the influence of Alexander Meiklejohn and his short-lived experiment in the 1920s at the University of Wisconsin.[14] A case could be made that the first college at the University of California at Santa Cruz, Cowell College, which began in 1965, embodied some aspects of the St. John's model, although the College soon abandoned whatever limited requirements it had possessed and lost much of its autonomy vis-à-vis the Boards of Studies—that is, the academic departments of Santa Cruz. All the graduates of St. John's College since it began are probably fewer in number than the entering freshman class of one of the great state universities in any given year. Yet, despite its small scale, St. John's began a debate in the 1940s concerning the purposes of higher education that engaged the attention of John Dewey, Alexander Meiklejohn, Sidney Hook, Walter Lippmann, Jacques Maritain, Mark Van Doren, and many others; the cultural resonance continues to this day.[15]

The Aesthetic-Expressive Movement

St. John's College resisted the university ideal as being too fractured into specialties, too tainted by careerism. But in one respect, St. John's had a great deal in common with the best Ivy League men's colleges—namely, the premium placed on words.

If in the 1920s one wanted to learn the performing arts, one's best bet was probably a conservatory or an art institute. A few liberal arts colleges had, so to speak, musical appendages, such as Oberlin with its Conservatory. Some of the great state universities, such as Indiana, Illinois, and Michigan in music, and Iowa in creative writing, were diverse enough and flexible enough to get away from traditional scholarly canons as to what is appropriate in a university setting.[16] In a way, they followed the land-grant model. Just as they had prepared people who wanted to teach home economics, they prepared people who wanted to teach music or to enter "commercial" or supposedly pure callings in the graphic arts.

But the creation of colleges whose main emphasis lay in the aesthetic dimension reflected the founding of a kind of second tier of women's colleges after such women's colleges as Vassar, Bryn Mawr, Smith, and Mount Holyoke had established that women could more than equal men in verbal exercises. In this second tier, Scripps and later, to a lesser degree, Mills on the West Coast and Bennington and Sarah Lawrence on the East Coast took advantage of the somewhat sheltered status of upper-class women to give freer rein to acknowledged creativity in the arts.

When the second author was a Harvard College undergraduate, Class of 1931, many of his closest friends were, or considered themselves, aesthetes. They found Harvard excessively verbal, when it was not merely muscular. When this same author visited Bennington College in 1932, the year of its founding, it struck him as a dramatic and appealing contrast to all that had seemed donnish and pedestrian at Harvard College. Bennington, along with Sarah Lawrence and Black Mountain, embodied what we have here termed the aesthetic-expressive ideal. That was not all there was to either Bennington or Sarah Lawrence, of course. Both, for example, gave employment to some of the Central European refugee scholars who were not aesthetes: at Bennington, for example, Erich Fromm and Peter Drucker, among many others.[17] Still, for many of the Bennington students, creative expression lay at the core of the enterprise, and this was even more centrally true of Black Mountain, particularly in its later days, under the poet-president Charles Olson.

To be sure, Black Mountain did not want to be a "one-sided art-music school," as the painter Joseph Albers put it, yet the College saw the academic disciplines as supplementing the arts, not the other way around.[18] The motivation of students was to develop artistic talent; the end of the community was to foster creativity and to experience beauty. The model was that of a bohemian artistic community; and the process of education resembled a studio with its apprenticeship style of mutual creation and criticism, whether it be fiction or sculpture. Black Mountain nurtured a cultural movement that supported and shaped the careers of John Cage, Merce Cunningham, Buckminster Fuller, Paul Goodman, Robert Rauschenberg, Olson, and Albers.

While St. John's College manages to survive only through the dedication of its tutors and the energy and magnanimity of its administrators and supporters, Black Mountain survives in the enormous cultural legacy of these individuals, even though the college itself, after many rescues from sudden death, perished in 1956. The Bauhaus, undone by Hitler, lives a flourishing life in America; it has influenced the International Style everywhere. Indeed, the native-born Americans among the Black Mountain recruits have helped turn the United States into a mecca for artists from all over the world. They form a major part of what Harold Rosenberg has termed "the tradition of the new."

Correspondingly, although not fully institutionalized in the major university centers,[19] work can now be done in the genres illuminated by these artists; for example, at the Visual Arts Center at Harvard, and the music departments at Princeton or Columbia, and, for a long time now, in the workshops for writers at the University of Iowa. Of course, radicals fear this inclusion as "co-optation," but it is more properly seen as mutual infiltration, or, in a marvelous term of Harold Lasswell, "restriction through partial incorporation." The growth was slow until after World War II, with major gains in the 1960s. More than 80 campuses now award degrees in art, three-fourths of them public institutions (UCLA is the largest, awarding 232 fine arts degrees in a recent year). Among the private institutions which have sizable programs are Brigham Young, Wellesley, Boston University, and Northwestern, but no private institutions are among the first 20 in numbers graduated and with the exception of Stanford no elite private university awards more than 25 art degrees annually.[20]

Viewed from the perspective of the discipleship that characterized both Black Mountain and the early Bennington, the new palaces of the arts rising in some of the public universities would be seen as corrupting in their gigantism. Those early cadres might also view the Carnegie Commission's recent anointing of the arts as partially a curse.[21] One consequence of the imitation by the broader academic culture is that the colleges founded to give form to the aesthetic impulse have had perhaps an even harder time surviving than the other off-beat enterprises we are discussing here. For one thing, polarization in terms of sex which left creative expression as a female domain has greatly moderated; with men encouraged to develop what would once have been thought "feminine" aspects of themselves, colleges specializing in aesthetic expressivity for women have had to reconsider their mandate. Bennington and Sarah Lawrence; along with most formerly women's colleges, have gone co-ed; so has Immaculate Heart College, where recently there has been a great emphasis on the arts; Scripps has not had to join the panic rush toward co-education because it is part of the Claremont group of colleges.[22] Correspondingly, Bennington and Sarah Lawrence, which have never been exclusively devoted to the arts, have lost their vanguard role in that area.[23]

The Communal-Expressive Movement

In the nineteenth century, America was seen as the Promised Land by millions of natives and immigrants; but for myriads of small groups, the Covenant had long since been broken, and the sense of mission that can be found in John Winthrop's "errand into the wilderness" was seen as having been betrayed. As higher education spread, and as the specifically religious impulse waned, it is understandable that a few institutions of higher education began to see themselves as principally expressing the values of community, even though they also operated as peripheral members of a system valuing competition and cognitive rationality. Community was one theme at Black Mountain College, along with the emphasis on the arts; and, as in the case of other utopian communities, Black Mountain suffered a series of schisms in its search for wholeness.[24] Schisms, in fact, seem part of the "natural history" of communal-expressive ventures. Such institutions generally begin with a charismatic leader who is often not good at balancing either books or interests and is subsequently expelled.[25]

The full flowering of the communal-expressive movement in the several colleges that have been dominated by it occurred only with the growing influence of humanistic psychology. Much of the literature of humanistic psychology, including the journal of that name, focuses less on expressing its own particular ethos, than on differentiating itself from such major currents in psychology as behaviorism and traditional Freudian psychoanalysis. Its view of man tends to be Rousseauistic. Carl Rogers, Abraham Maslow, and a more distant and more intellectual mentor, Norman O. Brown, provided the movement with an ideology about the importance of the affective life: "Where ego was, there shall id be." The techniques used in these new ventures are often those of the T-group, the encounter group.[26]

The encounter movement is prominently linked to techniques developed in the National Training Labs in the 1950s and 1960s to help teachers, ministers, businessmen, and civil rights workers become more sensitive to the feelings of others and more attuned to the factors affecting social interaction. Though Maslow and Rogers have had perhaps the widest influence on the growth of what we have called the communal-expressive movement in higher education, there are less obvious connections to the work of Kurt Lewin, Elton Mayo, Douglas McGregor, and others concerned with creating environments supportive of human growth and change.

Paradoxically the college that perhaps went furthest in grounding itself in these techniques, Johnston College, was founded in 1969 as an experimental college of the University of Redlands. The College departed from its parent institution with an evangelical fervor at odds with the once Baptist traditions of the parent institution. Johnston College opened with a two-week retreat in the woods, in which faculty, students, and staff formed themselves into moderately intrusive encounter groups called Grok Groups in order to share their hopes and aims for the incipient College. The faculty included not only T-group leaders, but also observers of process, whose function it was to report on the affective life of all the constituencies of the College. Many were Rogerians, some of whom brought to their new secular religion the zeal of converts from earlier constraint. The founding Chancellor of Johnston College, Pressley McCoy, had been associated with Protestant colleges and is a man of strongly evangelical bent. Indeed, a number of the original faculty of Johnston College had at some previous point either been in a seminary or had entered the priesthood or the ministry. Our impression is that many of the more experimental colleges, public and private, founded in recent years have been influenced by ex-priests and ex-ministers. Most of them, to be sure, are properly equipped with Ph.D.s, but for them affective education represents something like a return of the repressed or discarded religious impulse. In their own quests for identity, they tend to emphasize the negative identity of the new colleges as being at war with the overwhelming intellectuality and departmentalized rationalism of what they term the academic mainstream.[27]

In the war of negative identities against prevalent patterns at the University of Redlands, Johnston College lost the battle with its parent institution. Chancellor McCoy was ousted, and the struggling enterprise barely escaped termination. Now, five years later, the encounter group emphasis is still present, but muted; it is no longer the sacred thread that binds the College together. Rather, Johnston College has come to resemble other new private colleges such as New College in Sarasota or Hampshire College in adopting the contract system which allows students and faculty to negotiate what must be done to achieve a terminal degree, and the way stations en route. There is still, of course, talk of community, but it is no longer either euphoric or inflamed.

Some of the spirit that animated Johnston College at its founding was also present at the birth of Evergreen State College several years later, but is considerably attenuated now. Kresge College of the University of California at Santa Cruz, which began in 1970, however, describes itself as "a living-learning community which concerns itself with the human as well as the intellectual needs of its members"; the catalogue statement continues: "One favorite Kresge metaphor was the organic image. Last year we thought of ourselves as an infant college, struggling to survive and grow and learn what a college should be. . . . Our eventual objective is to create a diversified system where each species is dependent upon every other for its welfare, and where all of us together make an integrated context which nourishes and sustains life."[28]

In its charter year, Kresge College declared that its aim was to "explore educational innovation through a human relations approach. . . . The excitement and creativity of a learning environment is the result of open, direct and explicit relationships."[29] This aim was to be facilitated by organization into kin groups composed of a faculty member and fifteen or so students who lived near one another and met as a seminar offshoot of a college-wide course, and often functioned as an encounter group. When the first author and his wife were at Santa Cruz last spring, a senior member of the faculty invited them to a meeting of his kin group which was very much a family affair. Members of the group lay about on foam mattresses watching the Wizard of Oz on television, and the group several times broke spontaneously into song and dance accompanying Dorothy and her band on the screen. In the discussion afterwards, one woman said how difficult it was to let go of her natural family in order to make a commitment to a new one. The professor squeezed her hand and said she could count on his support, and a student stroked her foot, adding her encouragement. Others talked about their need for support from the group, but admitted that they did not always find it convenient to help others when that help was requested. Such discussions are frequent at Kresge. One student wrote, "[I learned] that I could trust a group of people who were, at the same time, almost all strangers to me. It taught me that this community was supposed to be a caring community. It taught me there were some very interesting people here at Kresge who were trying to create in their daily lives social forms which agreed with the ideal of the caring community—that, to me, is what 'touch-feely" means."[30] Although students attend classes in other boards and colleges at Santa Cruz as well, the kin groups minimize the distinctions of rank and any boundary between the curriculum and the life of the residence halls within Kresge.

While the rest of Santa Cruz often views Kresge as a tribal family, it is recognized that there are factions within its "extended families." Thus, Kresge has faced more slowly the problem of belief that came to an early head at Johnston and the other experiments: the difficulty of eliciting consent without manipulating later generations who did not participate in the encounters, charged with drama and charisma, of the founding cadre.

At the deepest level, the communal-expressive movement as illustrated by Johnston or by Kresge shows its religious side by a belief in mystical oneness: the desire is to experience unity and to find mutual growth through the support of a group. Openness to others is seen as a road to oneness. (And to Jungians among the founders of Kresge, as with Brother Antoninus, now laicized and writing poetry as William Everson, openness to introspective processes, to one's own subconscious, is a crucial aspect of the Kresge experiment insofar as it enables students to discover their calling by discovering their archetype). Because the aspirations of the covenant are so exalted, the disappointment and disillusion when it breaks down—when the company turns out not to be composed of saints—can run bitter and deep. Mutual openness can lead to exploitation and to what the political scientist, Jo Freeman, writing about women's groups, terms "the tyranny of structurelessness."[31]

While it would be all too easy to parody its saccharine excesses, Kresge strikes us as an experiment of integrity that deserves the careful attention of those who would hope that a better balance can be struck between feeling and intellect,[32] and who believe we have more to learn about how to be more cooperative without sacrificing essential human diversity.

Activist-Radical Movements

If the communal-expressive colleges have their identity principally with the counterculture, the colleges dominated by political activism in the 1960s were at odds with the counterculture's softness, its emphasis on consensus. They sought change in the society, less consciously in themselves. In the early days of SDS, the two currents were fused, and often confused; members sought expressive comradeship as well as specific political mobilization and change.[33]

Even now, with the receding wave of protest, departments at many universities, eminent and non-elite alike, are dominated by faculty who were "radicalized" in the 1960s, often, of course, with leadership from the few charismatic elders. As Carnegie Commission surveys of faculty attitudes show, there are dramatic differences among fields, with sociology at one extreme and engineering or veterinary medicine at another. But if one asks not about enclaves within major institutions, but rather about colleges founded by or dominated by activist-radicals, then the list is short indeed, including the labor colleges, Brookwood and Commonwealth, as well as the State University of New York College at Old Westbury in its first incarnation, under President Harris Wofford, who combined a dedication to St. John's College ideals with an activist background and a fervent commitment to civil rights.

If we had to fasten on anything like an ideal-typical case for the radical college, however, it would be Antioch. It was neither founded by radicals originally, nor refounded by them during the era of Arthur Morgan. But it has been committed to social, political, and curricular change since that refounding, and in the 1960s it experienced with particular intensity the commitment of a large part of its faculty and student body to using the college for the political ends of the Far Left. Antioch expanded, as other selective colleges did later, to serve minority groups and had a small cadre committed to expressive-communitarian ideals that were not avowedly political. The college was never wholly "radicalized," but the largest single unit on the campus, although not formally a department, came to be the Marxist-oriented Institute for the Solution of Social Problems. Some departments became collectives in which student voting power outweighed the faculty's, carrying further the pattern of community self-government that had prevailed at Antioch in an earlier day. The President, James Dixon, a physician who had founded with Marcus Raskin and Dick Gregory the short-lived New Party in the 1960s, encouraged these developments, often, it would appear, using students as leverage against a minority of more traditional faculty. Antioch's elaboration of an extensive network of more than a score of field centers was seen by some as a financial drain on the home campus, further exacerbating confrontation tactics. One student vented his frustration at Antioch's brand of politics: "You can get anything you want on this campus if you place a rock through a pane of glass."[34]

At Goddard College there have been political battles less violent and visible than those at Antioch. The politics there has been more intramural, not so linked to the national and international agenda of radicalism. And at Staten Island Community College, some faculty see their mission as that of raising the consciousness of working-class students. But neither of these institutions comes close to Antioch's polarized and polemical intensity; for comparisons, one would have to go to Tokyo or the Free University of West Berlin.

Meritocratic Pressures and Student Discontents

In terms of absolute numbers, all these countermovements or telic reforms have been small, although their impact as models for emulation or incorporation has sometimes been large.[35] Educational reforms of the last decade have taken quite different roads. The popular reforms have been characterized more simply by a shift of authority to students resulting in an increase in student autonomy. This shift in the character of the relationship between students and faculty has also occurred in tandem with the extension of educational opportunity to previously disenfranchised groups. Along with this development came the introduction of black and other ethnic studies programs and, in something like two hundred colleges, women's studies or family or sex-role studies. A study of college catalogues would, we think from our partial examination, reveal a softening of traditional departmental boundaries and an expansion of the arena of concern beyond earlier departmental limits. For most students, however, the content of the curriculum has not been dramatically changed, although a close study of textbooks and other readings in some fields of the social sciences and humanities would reveal the use of more avant-garde or off-beat material and hence considerable incremental change, uneven among schools and disciplines. In contrast, what has profoundly changed is the student's freedom to create his own curriculum, to move through it at his own pace, and to do so with greater autonomy vis-à-vis faculty.

A 1972 survey of academic deans in 115 selective colleges and universities showed that three-fourths of these institutions permitted students to plan their course of study and define their major (21 percent of the institutions had students do so frequently; 52 percent said this was occasional practice).[36] Eighty-three percent of the colleges grant credit for individual work or study away from the campus; 22 percent say this can count for up to a quarter of the credits required for a degree; 9 percent give credit for such study even when pursued in the absence of faculty supervision. Three-fifths of these selective colleges allow students to initiate new courses. More significantly, 28 percent permit undergraduates to conduct their own courses for credit. The academic deans expected these developments to go still further: 54 percent said they planned further liberalization in policies for granting academic credit, while only 3 percent anticipated tightening of regulations. Administrators at the University of California, Santa Cruz, where virtually all grading is on a pass/no record basis, have speculated that any effort to return to formal grading, desired by some students concerned with post-baccalaureate placement, would bring about a massive student protest. (Indeed, a petition has been submitted to prohibit even the limited grading that now occurs in some premed courses.)[37]

At the same time as students were gaining more control over their curriculum pathways through the abolition of requirements and the adoption of pass/no credit modes of grading, the minority of campus activists were also securing more direct, formal control over academic policy. Thus, a 1970 Carnegie survey of 1,230 colleges and universities found that 58 percent had given students more control over academic policy, with the proportion higher in the more selective colleges. This same survey showed that while two-year colleges reported small increases in dismissals for academic reasons, 8 percent of colleges awarding master's degrees and 20 percent of those awarding the doctorate reported decreases in academic dismissals.[38]

Long before the 1960s, clever students, skilled at manipulating adults, could maneuver their passage even through "straight" academic institutions while achieving a good deal of autonomy. In some institutions, students admitted to honors programs were held to more stringent standards, while at other schools they were given the freedom of their talents. By the late 1960s the gatekeepers relaxed their guard for the many as well as for the few.

The intense competition that hit this particular generation of students was a principal source of pressure for such relaxation. "Selectivity indices" and nationwide testing have developed only recently. Until the 1930s, a few well-known colleges had something of a national draw, but at the undergraduate level, the contemporary sense of a national prestige ranking emerged after World War II. Since most colleges depended pretty much on their local catchbasins and were not seriously overapplied, neither children nor their parents were anxious about college entry. For example, although Harvard College began nationwide talent searches around 1937, a student of average ability and moderate wealth or enterprise could easily get in until the rush of veterans began after World War II.

Colleges did not have an opportunity to become choosey on a large scale until the late 1950s. The pressures began to be felt at ever earlier levels in the schools, as parents and their children wanted to build up records for college entry; and these pressures were intensified by the growing competition for places in medical schools, good law schools, and other top-flight post-baccalaureate institutions—places thought to be easier of attainment from the platform of a selective college.[39]

The graph in Figure 1 charting the undergraduate explosion from two million in 1951 (just after most of the veterans graduated) to 3.5 million in 1960 to 7.4 million

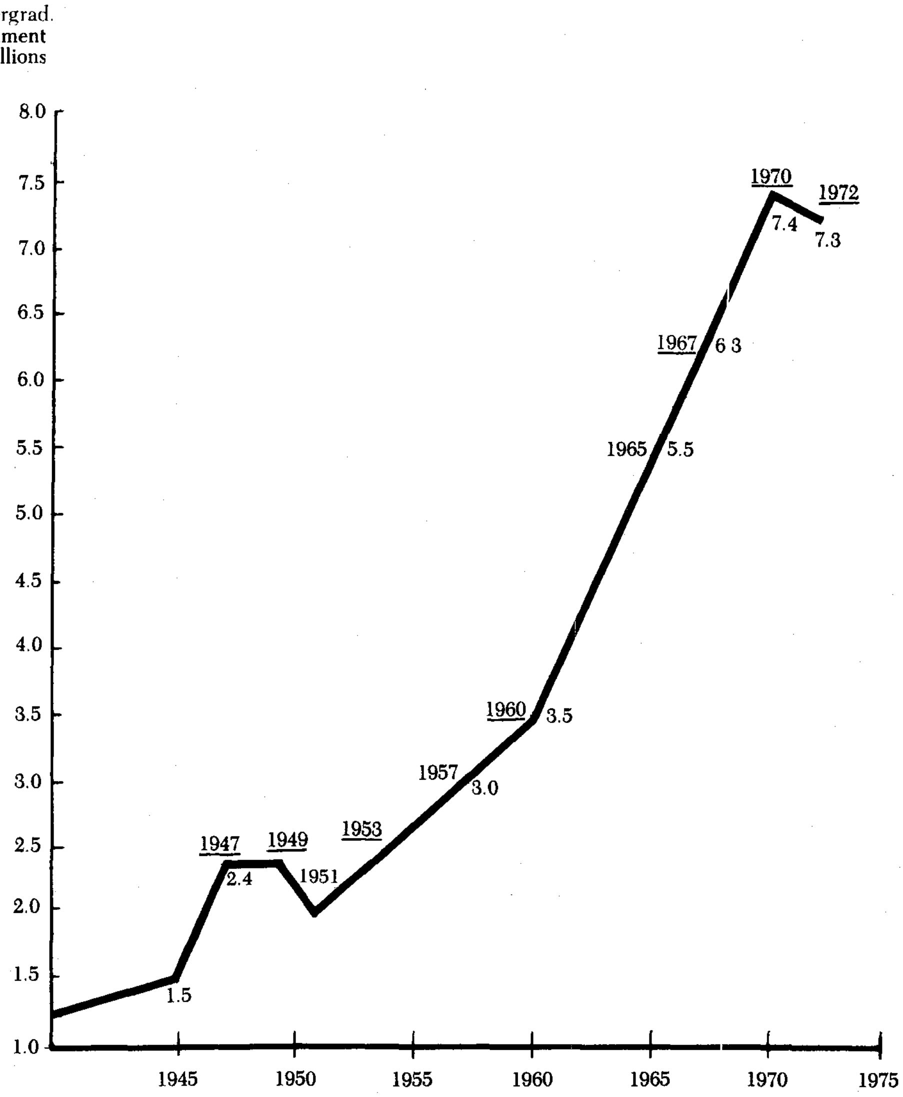

Figure 1. Undergraduate Enrollment, All Institutions, United States 1940-1972

Source: USOE Digest of Educational Statistics, 1968, p. 70 and "Opening (Fall) Enrollment in Higher Education, Annually, 1957-1967," in Seymour E. Harris, *A Statistical Portrait of Higher Education* (New York: McGraw-Hill, 1973), pp. 247, 412, and 1970-72, Chronicle of Higher Education, Oct. 1, 1973.

in 1970 began to be impressed on every parent's mind. Posters warned parents that their children should study so as to be able to enter college. Whole neighborhoods became tipped in the direction of college as more and more of the age-grade attended. And as it began to look as if "everyone" were going to college, the advantage of college attendance per se declined, and the pressure to enter a selective college intensified. This led to the refinement of testing instruments by the Educational Testing Service and the development of the American College Testing program, which helped some less elite colleges become a bit more selective. Meanwhile, provincial ties, religious and ethnic, were breaking down so that colleges could not count on particular customers or vice-versa.

The egalitarianism that began to make college-going everybody's right and everybody's remedy also meant enormously intensified competition among the enlarged pool of contestants.[40] In 1956, when the first National Merit Scholarships were awarded, high schools allowed 58,000 students who ranked in the top 5 percent of their class to take the qualifying test; this was something like sponsored mobility. But egalitarian fairness led to the demand that all be able to compete so that by 1964, 800,000 students took the test.[41] In the interim, more room was made for winners in absolute numbers, but in relative terms the expansion increased the pool of strivers and losers.

This last point can be put in other terms by looking at the use of test scores at a specific institution. When Harvard began to use the SAT to select a talented few in the late 1930s, there was virtually no penalty for not doing well. Students of average ability from affluent or alumni families were not required to take it, and there were many other bases for admission to Harvard and other socially or intellectually attractive colleges. But as the tests became required screening devices at nearly all colleges which aspired to distinction, the primary function of the SAT became that of identifying the failures, not the successes. Not just failing to win a scholarship, but failure to gain admission to one's chosen college became the penalty of not doing outstandingly well.[42]

The number of colleges joining the College Entrance Examination Board rose from 79 in 1948 to 707 in 1966.[43] Simultaneously with the growth of television and an increasingly national culture, these developments reflected the "nationalization" of a number of the more selective colleges. Winning a National Merit Scholarship or being a runner-up gave psychological justification for leaving home and peer group and brought many invitations to do so. All these potential customers had available to them college guides which listed test scores for hundreds of colleges, and in large cities matching agencies developed which could bring students and colleges together. Football players might be wooed for the sake of alumni and legislative support; but collecting National Merit Scholars became important in attracting faculty and visibility among intellectuals.[44]

If the demographic bulge pressured children through their parents' heightened concern about qualifying for a "good" college, the Russian launching of Sputnik gave both schools and colleges leverage over local and national budgets and provided an ideology to justify honors programs, accelerated curricula, and an intensified attack on academic laxity. National committees of scholars took an interest in secondary education and pioneered in developing new, more abstract, and more challenging high-school programs in mathematics and some of the natural sciences. In suburban communities, educated parents supported these programs, while major universities encouraged the high schools through Advanced Placement, which in effect allowed high schools to offer college-level courses for college credit. Efforts occurred also to make Americans less monolingual, with high schools offering courses in Russian, Chinese, and (later) Swahili as well as the more traditional languages.[45] The Sputnik impulse thus spread beyond the sciences, although, of course, unevenly in terms of the whole country. With the increased pressure for college entry, students in suburban high schools and in the private schools began to compile dossiers of impressive activities and offices. Activities that had been in some measure ends in themselves thus became instrumental. And resentment about playing these instrumental roles was also a powerful motive underlying the drive for autonomy in the curriculum and the extracurriculum in the 1960s.

A majority of *all* male students entering four-year colleges in the 1960s proclaimed the intention of continuing in some form of post-baccalaureate education; and in the selective colleges, the overwhelming majority of both sexes had this intention. The increase in the proportion of those attending college had become so great that, as a proportion of the age-grade, a college degree was no more distinctive in the 1960s than a high-school diploma had been in 1920.[46]

More Work for Less Reward

Not only were undergraduates competing with one another for the grades and faculty recognition that would win them places in post-baccalaureate competition, but faculty members themselves responded to the increased ability and diligence of their students by raising their own level of expectation concerning student performance. Kenneth M. Wilson has shown that as test scores in five private women's colleges rose, the pattern of grade distribution did not change. Thus, it was harder for students of similar ability to get an A in the 1960s than in the 1950s. Yet competition for grades in order to attend graduate school became more intense in the 1960s; during that decade, although undergraduate enrollment rose by 52 percent, graduate enrollment rose by 73 percent. And while this latter figure indicates an increase in the number of institutions laying on graduate programs, it is also true that many major graduate-oriented universities increased enrollments only modestly while raising entrance standards. (Wilson's data are summarized in Figure 2.)[47]

It is probable that the standards of student performance and faculty expectation are, with ability level held constant, higher in women's colleges than in men's or coeducational colleges. Harvard grading standards in the 1960s, prior to the onset of grade inflation, were, for example, with great unevenness among departments, "softer" than those at Smith, Bryn Mawr, or Wellesley. But grading standards at Chicago or Reed or Oberlin would, in our judgment, have shown a pattern not unlike that of Kenneth Wilson's study.[48]

With the rise of meritocratic pressures, a shift in outlook began in the more selective colleges, a change anticipated in Michael Young's brilliant social-science fiction, *The Rise of the Meritocracy*.[49] At Mount Holyoke College, for example, 30 percent of the entering freshmen said in 1964 that they disliked competitive situations; by 1970, the proportion had grown to 43 percent. At Vassar, the shift in the same period was from 30 percent to 49 percent.[50] Because of earlier expansion in the proportion of Americans attending college, the 1960s brought to the more selective colleges "critical masses" of students from families where the father and often the mother had attended college. For these students, to do better than their parents became problematic; they were not likely to do "better" simply by getting *the same amount of education. Students responded in divergent ways to this con*stellation. Some engaged in, and presently even more are engaging in, defensive credentialing, securing not one but two degrees, and working even harder for grades than their parents may have done. Others joined the contrameritocracy, preferring not to compete, debunking success, and in some cases concluding that the system of competition itself is evil and should be destroyed.[51]

Misgivings concerning success and the competition that might lead to success did not begin with the student protests of the 1960s, but have been an endemic strain in American life and letters. A good conscience concerning success—even a Calvinist sense of it as a sign of grace—was the dominant theme, but a latent guilt,

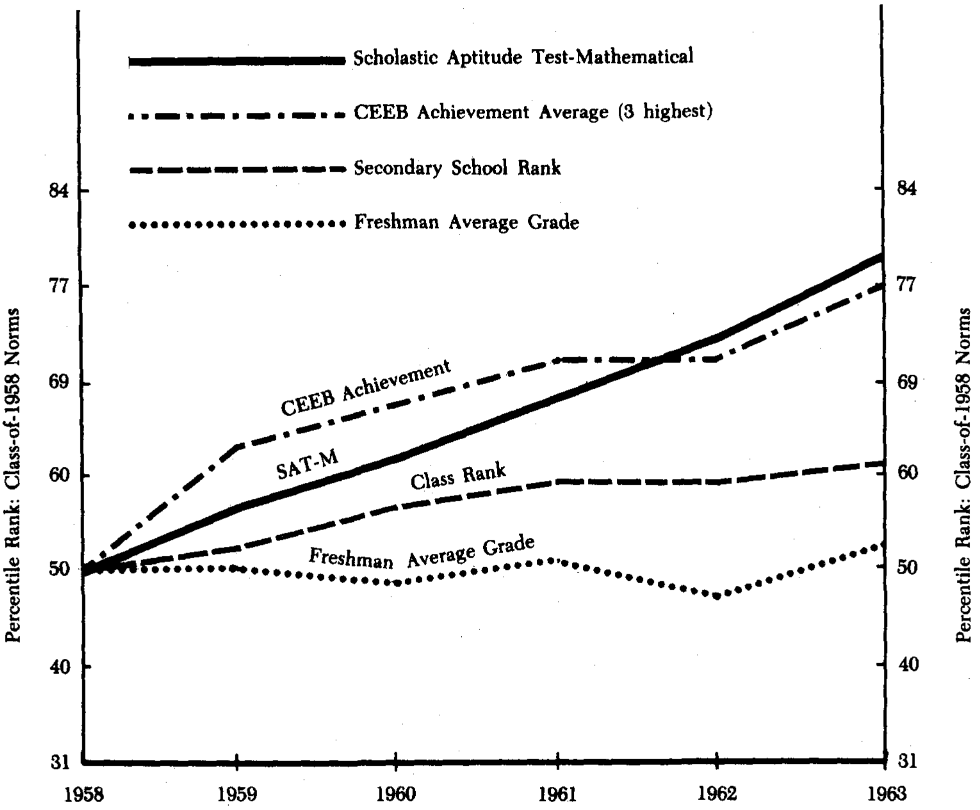

Figure 2. Selectivity of Entering Classes Compared with Grades Earned in Five Women's Liberal Arts Colleges, 1958-1963

Standing of the average freshman, classes entering 1958 through 1963, relative to 1958 class norms; composite of five liberal arts colleges for women. Source: Kenneth M. Wilson, College Research Center, 1966.

even a guilt concerning one's privileges, was often an underlying motif.[52] As competition increased with the demographic bulge in the 1960s, so quite understandably did the antagonism and even revulsion against it. And the always latent uneasiness was intensified by the highly visible presence in selective colleges of black (and, to a lesser degree, other visibly different) students whose education had been handicapped in contrast with the family and school backgrounds of the privileged. Beating black students in an athletic contest was one thing; beating them in the longer run competition for academic preferment became less a source of pride than of shame and guilt.[53] Such differences in achievement, based on social and cultural class, had existed hitherto, but had never been highlighted with such immediacy as in the wake of the civil rights movement.

Furthermore, the fear of success that began among the privileged was, like aristocratic insouciance generally, quickly made an aspect of the ethos of more provincial students. In Daniel Yankelovich's 1968 survey of student attitudes, a third of all college students expressed doubts about being successful and half had doubts about the value of making money.[54] Furthermore, while growing cynicism, perhaps in part reflecting the expansion of higher education, may be one element in the findings of the survey, the experience of more work for less reward may be another in the remarkable increase in the percentage of students who do not believe "hard work will always pay off." In the 1968 survey, 31 percent said they no longer believed hard work pays off, a figure which rose to 43 percent a year later, and to 61 percent in 1971. The contrast with political attitudes is marked and indicates that this shift is not a result of a large number of students who support dramatic radical change. In 1971, 85 percent say business is entitled to make a profit, and 73 percent agree with the statement that, while there are flaws in the society, "the system is flexible enough to solve them."[55]

A decade ago undergraduate life in the selective colleges and universities was characterized by shrinking rewards; by the early 1970s the situation had changed so dramatically as to be fairly described as more reward for less work. Faculties greatly relaxed their standards of grading as the student market grew less assured. As selectivity increased at one large private university in the East in the period 1958-1964, the percentage of students earning "A" grades remained constant as reflected in the numbers graduating with honors, about 10 percent. Until about 1965, there was more work for less reward. Grades began to inflate in the late 1960s, so that 16 percent of the class of 1970 graduated with honors, 19 percent of the 1971 graduates, 23.5 percent of the 1972 class, and in 1973, 27 percent. Selectivity reached a peak in 1965, and declined slightly as grades rose. Once faculty had sold freedom as a way of placating the pressures we have described, they began to pass out high grades as bait to attract students to departments and courses they were no longer required to attend. Grade inflation now has spread to the high schools; 22 percent of the freshmen entering universities in 1966 reported "A" high-school averages, while 31 percent of those entering in 1973 had "A" averages.[56] Simultaneously, in the colleges, adults abdicated from the supervision of dormitory life with extraordinary speed even in the denominational and provincial institutions.[57] Retreating before the charge of hypocrisy, adults refused to lay down any norms or standards—granted that these would be disobeyed in practice—thus leaving the young frequently in the hands of the most inconsiderate among them.

The Spirals of Reform

The resentments we describe did not cause political protest. Campus political movements rose in response to specific historical events and originally focused on the university as an agency implicated in society's ills. Yet the slogans attacking the university as a machine later found an extraordinary response and served to mobilize the resentments we have delineated. This resonance might seem to be at odds with Robert Somers' 1964 survey of 285 Berkeley students, which revealed that most were satisfied with the quality of education.[58] (A majority said they were satisfied with "courses, examinations, professors etc." and agreed that Berkeley tries to "provide top quality educational experience for students here.") Our point is not that students found fault with the quality of education in 1964, but that it was too good, too intense. Too much was demanded of a generation that had had to forego other choices and satisfactions in order to compile an impressive school record that would win them a place in a selective college and then demanded they compete again to enter the best graduate schools. Many in this generation came to hate competition with a vengeance, and they resonated to attacks on the university as a machine, which is not inconsistent with positive reports about the "quality" of courses or examinations. In the wake of the Free Speech Movement, students began often to speak of themselves as an oppressed class, an idiom which a white UCLA student carried to the point of speaking of "the student as nigger." Protest aimed at specifically educational targets rapidly increased after 1965, and the movements of the pedagogic left were launched, at times acting in concert with political protest, but also following trajectories of their own.[59]

The solidarities of the protest movement provided a euphoric transition from the competitive strains of the early 1960s. Students joined with their erstwhile competitors to create new, if temporary, evangelistic communities in the teach-ins and sit-ins. Some faculty supported the radical minority of students who were mobilizing their peers in focusing antagonism on the administrators and hence away from the faculty. (There was irony here, since administrators have in general been more sympathetic to student concerns and broader in their horizons than have most faculty members.) Eventually, many faculty members themselves became the target of student protests and were no longer able to use the administrators as scapegoats. Administrators and faculty were forced to react to demands for change—for more freedom, pass-fail grading, independent study—and they extended academic amnesty ever more broadly. Some hoped political as well as pedagogical discontent would disappear as a result, but it seems likely that decreasing American involvement in Vietnam and the end of the draft had more to do with the decline of extramural political radicalism than the new curricular freedoms. The reforms may, however, have assuaged resentments that might have fueled more internal politicization of the campus than generally occurred.

The spread of curricular reforms was also influenced by the obvious initial popularity of Hampshire and New College and other colleges like them, which offered students more flexibility than the traditional models. Hampshire was for a time the most overapplied college in the Northeast, and it did not go unnoticed when students turned down Radcliffe and Yale for Hampshire. Nor were faculties insensitive to the flow of student traffic to student-run experimental colleges and free universities (offering everything from macramé to mysticism) that sprang up on or near many campuses. Most of these enterprises have evaporated as faculty incorporated strategies invented in them, showing they would not be out-optioned by the pedagogic left. In this context we need to be reminded that the spread of styles and forms in American society is not invariably from the top down. The "natural history" of rock music, for example, shows the way in which minority cultures may be ransacked for novelty, spread upwards from below, and then become diffused downward again, even while new art forms may be making their way through these processes of discovery and distribution. In the past, academic reforms seem to have begun either in the kinds of off-beat, mostly private colleges discussed at the outset of this essay or in the major research-oriented universities, and spread as graduates of these institutions went to teach in places beyond the vanguard orbits. Today, the chains of influence are less hierarchical.

It seems quite likely that liberalization and relaxation of curricular demands are no longer an issue in the small minority of selective colleges. Hampshire College seems already to have lost its enormous initial allure, and New College in Sarasota is also having difficulty obtaining the quality of students who once found it attractive. In fact, the general plight of the private colleges in a period of rising tuition and lowered enrollments has reached all but a handful of institutions so that even the most affluent fear that they may be losing their middle-class applicants to the increasingly competitive public sector.

Ends and Means, Energies and Sensibilities

One consequence of the interminable committee activities that occupied institutionally loyal or politically motivated faculty during the late 1960s has been a sense of weariness with curricular reform, while at the same time the reform has been sufficient to moderate the resentments previously felt by students, resentments which could be mobilized in large-scale protests. Yet if one compares not the mechanisms of curriculum or governance, but the ends of education set forth in condensed form in Table 1, one can see that most of the changes have had minimal impact on the ends of education even though they have enlarged the constituencies, softened some of the rigors, and altered the tone of campus life and student-faculty relations. Thus, the moral and intellectual energies may not be available for reconsideration of more ultimate questions such as those raised, for example, by the communal-expressive institutions or by the model of St. John's College. Nevertheless, as students begin to realize that the economic benefit of higher education is becoming increasingly marginal, except as a preprofessional platform, some may react with a renewed interest in the purposes of education apart from social mobility or occupational insurance. Furthermore, the reduction of faculty mobility may lead to more discussion of telic reforms as faculty have less concern for the main chance elsewhere and more with attending to the deeper questions of reform on their own campuses.

Since the campus is quiet and the majority of students hard at work, at least in the major centers, it is widely maintained that we are somehow back at the immediate post-Sputnik era with faculty authority restored. We do not think so. Student attitudes have changed much less than student behavior. There is still a longing for community, a hatred for competition and rivalry. Many of the students headed for medical school in the selective colleges are neither greedy for fortune nor eager for fame; rather, they want a profession where they can be sure to be of help and where, in their estimation, they can avoid bureaucratic settings and maintain personal autonomy. Similar ideals motivate many now crowding into law schools. In fact, acceptance by a professional school makes no claims for the self other than ability to get in; it does not require a statement that one has something to say or discover, as would be the case if one entered a career in research or as an artist. Such a statement might seem, to oneself and one's peers, an expression of excessive, hence noncooperative ambitions. In this and other respects, in the altered economic situation of the 1970s, an era clouded also by political disillusionment after the extravagant expectations of the previous decade, students nevertheless, and many faculty also, cling to the ideals of the 1960s and often carry these into the forms their ambitions take, and of course into their life-styles, if not into their diurnal talk and action.

The secular cathedrals of American higher education developed in an era of almost continuous expansion, creating what to much of the world appears to be a setting in which "more means better" rather than worse.[60] Growth in numbers of students and in proportion of GNP devoted to higher education made it possible to minimize internal strife over priorities and for intrastate competition to proceed in elevating the leading state university while also building up its regional rivals. Now, of course, except in a few urban branches of state universities and some community and four-year colleges, all this is at an end. For some faculty, the temptation is to resort to unionization as a way of saying, in effect, that they belong to a fungible species which must protect itself by limitation of access, rather than make their way competitively as highly differentiated, unique individuals in an academic labor market with limited turnover. As many students seek defensive credentialing in a tightening labor market, so faculty members and administrators are driven to seek full-time-equivalents formulae which guarantee at best stability and at worst limited shrinkage coupled with undermaintenance of physical plant and faculty development. The construction cranes are disappearing from the academic landscape.

But we think that there is still enough ferment and concern so that qualitative growth is not likely to vanish. Entrepreneurial talent will continue to seek out the nonprofit sectors of American life, as in so much of the recent past. We need to understand better what the antiuniversity movements may have to contribute to the day-to-day work of the university colleges and research universities. Thus, St. John's College still has something to say about the coherence of a shared curriculum, about serious and close reading of texts, and about the willingness of faculty members to apprentice themselves to one another in the slow process of learning to teach the entire corpus of a four-year program. We regard the program as presently constituted as being far from ideal, too monolithically verbal, incapable of developing powers of ethnographic observation or other nondialectical skills. Still, the program stands as an admonition. We regret that there have not been more intramural efforts on a small scale to develop core curricula which would attempt to connect the contemporary world with its intellectual and historical foundations.

What the aesthetic-expressive colleges have to teach has been in considerable measure incorporated everywhere. The once feminine values of sensibility and aesthetic development are very much alive in music, less so in the plastic arts and architecture. The donnish gamesmanship of the stag college no longer charms and sustains its devotees. In an incremental way, the mandate of the aesthetic-expressive colleges is being followed both in preprofessional and in liberal arts terms.

When it comes to the other two variants of our typology, our account has already suggested both our hopes and our misgivings. While we would very much like to see greater generosity and mutuality in a college setting, we do not see this as a polar opposite of cognitive rationality. Nor do we share the faith of adherents that the encounter group is the optimal way to approach the development of humane sensibilities. We do, however, share the conviction that the search for more cooperative styles is worthwhile insofar as it does not sacrifice essential freedoms. No college has in fact been able to do this in formal institutional terms, and we are partly in awe of the hope and ambition expressed by the founders of Kresge College.

We are troubled by the kind of guerrilla action within and outside the near-contemporary Antioch, a campus where a tradition of social idealism and political action has degenerated into perpetual confrontations and a seemingly masochistic politics. Conflict may provoke change, as it has at Antioch, but there is no evidence that it necessarily improves learning. Nevertheless, Antioch's far-flung educational network has occasionally extended the college's credentialing powers in useful ways, as it did in developing the physicians' associates program in Harlem, even though it has launched doubtful ventures elsewhere. The earlier Antioch in its work-study program still has a lot to teach us, and much of it is being learned everywhere. At Antioch, the radicals grouped together in the Institute for the Solution of Social Problems, not the study of them, and fantasies of omnipotence gained a powerful hold. Such fantasies of omnipotence were a danger on many campuses in the late 1960s; fantasies of total powerlessness are more likely to be the danger now. Fantasies of powerlessness are inappropriate when it comes to thinking about what kinds of human quality can be nurtured in a college setting which can support the rationality necessary for a technological order along with, rather than in antagonism to, the more contemplative and expressive values adumbrated in some of the pioneering colleges.

REFERENCES

1. The number of protests, sit-ins, and other demonstrations dedicated to changing the university steadily increased from 1965 to 1970. See Richard Peterson, *The Scope of Organized Student Protest in 1967-68* (Princeton: Educational Testing Service, 1968), pp. 10-11; and Allen E. Bayer and Alexander W. Austin, *Campus Disruption During 1968-69* (Washington, D.C.: Office of Research, American Council on Education, ACE Research Report, August 1969), pp. 22-23, reported in Seymour M. Lipset, *Rebellion in the University* (Boston: Little, Brown, 1971), p. 71.

2. See Christopher Jencks and David Riesman, *The Academic Revolution* (New York, 1968). That work and this are indebted for generous support to the Carnegie Corporation.

3. Earlier, Riesman had contended that there was a single "academic procession," in which the acknowledged leaders were being imitated at all levels but with inevitable distortions, so that lesser institutions were trying to become what they thought the leaders were presently like, much as the colonials image of the mother country is that of an idealized and now quite out-of-date mother country. See David Riesman, "The Academic Procession," *Constraint and Variety in American Education* (University of Nebraska paperback edition, Lincoln, Nebraska, 1958), chapter I. For an excellent review of recent research on academic processions and professions, see Donald W. Light, Jr., "The Structure of the Academic Professions," *Sociology of Education*, vol. 57, no. 1 (Winter 1974), pp. 2-28.

4. Notre Dame, like Fordham, Georgetown, and other Catholic universities, has recently re-examined the question of its Catholic roots. For a discussion that includes viewpoints of non-Catholics as well, see "Notre Dame's Catholic Character: A Statement by the Committee on University Priorities" with responses by Robert Gorham Davis, John Druska, Martin E. Marty, Sister Marie Augusta Neal, David J. O Brien, John Ratté, Rosemary Radford Ruether, John P. Sisk, and Michael Zeik, *Commonweal*, vol. 100: no. 7 (April 19, 1974), pp. 155-164.

5. Of course, religion and ethnicity have worked in tandem, so that even today it is Norwegian Lutherans who come to St. Olaf College, a university college sufficiently advanced to include its own off-beat Para College, as an experimental, somewhat countercultural, pedagogically innovative enclave. With a few exceptions, the black colleges, many of which were founded by both black and white religious groups, have not had a separate ideal or, until recently, harbored as much separatist black nationalism as is to be found among black faculty and students at predominantly white institutions.

6. A more comprehensive treatment of this period would need to describe the role of Highlander Folk School and the People's Institute at Cooper Union, as well as many others. For a history of Commonwealth, see Raymond and Charlotte Koch, *Educational Commune: The Story of Commonwealth College* (New York: Schocken, 1972).

7. For the early Antioch (as well as an admirable picture of the early Reed), see Burton Clark, *The Distinctive College: Reed, Antioch and Swarthmore* (Chicago: Aldine, 1970); for the contemporary Antioch, see Gerald Grant, "A Network of Antiochs," in David Riesman and Verne Stadtman (eds.), *Academic Transformation* (New York: McGraw-Hill, 1973), pp. 13-49.

8. We here use the term "cognitive rationality" employed by Talcott Parsons and Gerald Platt in *The American University* (Cambridge, Mass.: Harvard University Press, 1973), and our own account of the resentments of the 1960s (developed later in this essay) is congruent in some respects with the explanation for student unrest offered by Parsons and Platt.

9. Buchanan was shaped both by his tutelage under Alexander Meiklejohn at Amherst and his graduate days at Oxford, but the Socratic model he created at St. John's differed consciously from the common curricular model of the nineteenth century; his was a grander vision than the "daily textbook assignments and remorseless recitations" that characterized that model as described, for example, in

George W. Pierson, *Yale College: An Educational History, 1871-1921* (New Haven: Yale, 1952), p. 69.

10. The best account of the Columbia program and a superbly cogent examination of the larger issues with which our essay deals is Daniel Bell, *The Reforming of General Education: The Columbia College Experience and Its National Setting* (New York: Columbia, 1966).

11. The quest that was initiated by Buchanan has been a recurring theme at St. John's up to the present day. In a discussion of curricular revisions, the dean of the Santa Fe campus insisted, "We should never permit ourselves to begin our inquiry by asking, 'How can we teach this better?' the question should always be 'What is the relation of this part to the whole?' " William A. Darkey, "Statement of Educational Policy," *The Collegian*, no. 121 (April 23, 1974), p. 9.

12. For an evocative discussion of the sorts of innovation that go on in departments without ever being given the label of "innovation," along with the pedantry and pretentiousness that are also there, see Martin Trow, "The Public and Private Lives of Higher Education," paper read at the Second National Forum on New Planning and Management Practices in Post-Secondary Education, Education Commission of the States (Chicago, November 16, 1973); revised version in this issue of *Dædalus*.

13. Of the first 20 students who entered the "New Program" that Buchanan invented in 1937, only 6 graduated, and most of those wanted to be tutors at St. John's. For a preliminary account, see Gerald Grant and David Riesman, "St. John's and the Great Books," *Change*, vol. 6, no. 4 (May, 1974), pp. 28 ff. For a history of the great books movement, see Amy Apfel Kass, *Radical Conservatives for Liberal Education*, dissertation (Baltimore: Johns Hopkins, 1973).

14. Ironically, Tussman's neoclassical "experiment" was one of the first post-FSM "reforms," since it was one of the few fully developed proposals ready to be implemented. For an account of the short, unhappy life of what came to be called Tussman College, see his book, *Experiment at Berkeley* (New York, 1969). St. Mary's College of California, which has consciously patterned its curriculum on the St. John's model, is another imitator. Shimer College in Mt. Carroll, Ill., a 1950s offshoot of Chicago now threated with extinction, could be viewed as a kind of analogue of St. John's with its nearly all-required program.

15. Among social scientists, Robert Nisbet has been perhaps the most noted exponent of similar ideals. See *The Degradation of the Academic Dogma: The University in America 1945-1970* (New York: Basic Books, 1971).

16. Syracuse University, which in 1873 established the first degree-granting professional school of art, was an early exception to this pattern.

17. Bard College has gone through several re-foundings, including a ten-year period (1934-44) as an experimental college under the auspices of Teachers College at Columbia and under the supposed influence of the ideals of John Dewey. In some aspects, Bard is identified with the movement for aesthetic expression. Bard also, in more recent decades, has shared some of the aims of the colleges we term communal-expressive, rejecting competition and academic pressure, status distinctions between students and faculty, and seeking that elusive goal of "community" which seems often harder to obtain in small isolated anti-academic enclaves than in settings where faculty and students have extramural ties and thus some remedy for family quarrels.

18. Quoted in Martin Duberman, *Black Mountain: An Exploration in Community* (New York: Dutton, 1972), pp. 308 ff.

19. Bernard Beckerman, Dean of the School of Arts at Columbia, describes the checkered career of the arts on Morningside Heights, which have flourished and wilted since the early years of the century but "have never been firmly rooted as part of undergraduate education." See his lecture, "Arts Education for Undergraduates," *Seminar Reports* (New York: Columbia Seminar on General and Continuing Education in the Humanities, May 15, 1974), vol. 1, no. 8, pp. 1-3. Beckerman touches on the problem of the difficulties in the university setting of subordinating creative to scholarly standards, a theme developed by James Ackerman in "The Arts in Higher Education," *Content and Context: Essays on College Education*, ed. Carl Kaysen (New York: McGraw-Hill, 1973), pp. 219-266. Oliver Fulton and Martin Trow also provide survey evidence to show that assessment of creative work causes a strain in the leading universities. See, "Research Activity in American Higher Education," *Sociology of Education*, vol. 47, no. 1 (Winter, 1974), p. 69.

20. In music, there are 76 institutions awarding at least 15 degrees annually; 30 of them private, including six of the 10 leading "producers"; but here the conservatories dominate: Julliard, Manhattan School of Music, Oberlin, the Eastman School of Music at the University of Rochester, and the conservatory now part of the University of Cincinnati. Speech and dramatic arts degrees are now conferred by more than 90 campuses, all but 17 of them public institutions. See James Cass and Max Birnbaum (eds.), *Comparative Guide to American Colleges* (New York: Harper and Row, 1972), pp. 813-815. A handful of institutions began to offer credit courses in art early in the century: Carnegie Institute of Technology (as it was then called) offered art in 1905. UCLA in 1920 and the University of New Mexico in 1897. Dance and theater were rarely found until the forties, and we know of no model of the Bennington-Black Mountain style existing prior to the creation of those institutions. For historical profiles of the growth of the arts on 18 campuses, see Jack Morrison, *The Rise of the Arts on the American Campus* (New York: McGraw-Hill, 1973).

21. Speaking for the commission, Clark Kerr said that in the future the "well-balanced campus" will need to add the creative arts to its endeavors as a fifth stream in addition to the professions, the humanities, the sciences, and the social sciences, "The Carnegie Commission Looks at the Arts," Carnegie Commission, 1973. Kerr also noted that the Commission survey showed that students said their campuses did not provide sufficient opportunities for artistic expression.

22. The overwhelming pressure for coeducation from faculty and students in the late 1960s is, however, illustrated by the fact that Pitzer College, founded as a social science college for women in the Claremont group, plunged into coeducation not long after its founding.

23. Bennington, in fact, has had a long tradition of political as well as cultural nonconformity. Its impact on students is reported in two volumes by Theodore Newcomb: *Personality and Social Change: Attitude Formation in a Student Community* (New York, 1943); and Newcomb et al., *Persistence and Change: Bennington College and Its Students after Twenty-Five Years* (New York, 1967); see discussion in David Riesman, review of *Persistence and Change* in *American Journal of Sociology,* vol. 73, no. 5 (March 1968), pp. 628-630.

24. Here again, we rely on Martin Duberman's admirable account in *Black Mountain.*

25. Anyone who, like the authors of this essay, has met a number of these founding fathers is impressed on the one hand by their seemingly innocent plausibility, and on the other hand by the repeated gullibility of their devotees, including not only supposedly shrewd bankers and other donors but also faculty members and students of higher intellectual caliber than the evangelical leaders they follow.

26. For a discussion of the rubrics of the movement, see Lawrence N. Solomon and Betty Berzon, eds., *New Perspectives on Encounter Groups* (San Francisco: Jossey-Bass, 1972), and Kurt W. Back, *Beyond Words* (Baltimore; Penguin, 1973).

27. In his semiautobiographical book, *The Quest for Identity,* Allen Wheelis describes the formation of himself as a psychoanalyst, as a refugee from a devout and constraining fundamentalist Texas family; then he illustrates poignantly the way in which the new vocation fails to satisfy the impulses which led to its adoption. See "The Vocational Hazards of Psychoanalysis," in *The Quest for Identity* (New York, 1958). Among some of the leaders of the counter-culture one finds such formerly "hard" psychologists a Richard Alpert; the former and still practicing classicist Norman O. Brown; and any number of previously rigid academic scholars who found a second career, or a new life, in trying to shed themselves of what they once were.

28. University of California, Santa Cruz Catalogue (1973/74), pp. 20-21.

29. University of California, Santa Cruz Catalogue (1970/71), p. 41.

30. Phillip Guddemi, *The Kresge Klein,* vol. 2, no. 1 (Feb. 4, 1974), renamed the *Kresge Clone* for this issue.

31. Jo Freeman, "The Tyranny of Structurelessness." *Berkeley Journal of Sociology,* vol. XVII (1972-73). pp. 151-164; see also the description of the Portland, Oregon, Learning Community, thinly disguised in David French, "After the Fall: What This Country Needs Is a Good *Counter* 'Counter-Culture' Culture," *New York Times Magazine,* October 3, 1971, pp. 20-21 ff.

32. We are aware that few things are more complex than the way the affective and cognitive are linked and grounded in human experience. Thought is not without feeling and feeling is entwined with

perception and mental processes. We speak in uneasy shorthand here but do not believe the distinction can be dealt with in brief compass.

33. For accounts by various hands of the impact of student protest at an array of more or less prominent colleges and universities, see David Riesman and Verne Stadtman (eds.), *Academic Transformation: Seventeen Institutions under Pressure* (New York, 1972); also, Seymour M. Lipset, *Rebellion in the University*.

34. *Antioch Record*, Feb. 13, 1972, p. 2.

35. When David Riesman spoke at the American Council on Education meetings in San Francisco in 1964, some presidents of major state universities asserted in conversation that the small private liberal arts colleges were insignificant in their impact on the larger academic scene. He responded that some of these same presidents were, like Clark Kerr who attended Swarthmore, graduates of small private undergraduate colleges whose designs for their own institutions had been influenced by these same apparently insignificant alternatives. For in that sense, Santa Cruz was born under the shadow of Swarthmore as well as of the earlier British models of the latter. See David Riesman, "Alterations in Institutional Attitudes and Behavior," in Logan Wilson (ed.), *Emerging Patterns in American Higher Education* (Washington, D.C.: American Council on Education, 1965).

36. The survey, developed by David A. Hartnett of Harvard University, was given to 115 deans who were invited to a conference on undergraduate education because their institution enrolled 75 or more Advanced Placement students in 1971-72. The survey was completed by 76 percent of the deans. See the conference report: "Changing Patterns for Undergraduate Education," (New York: College Entrance Examination Board, 1972), pp. 34-45.

37. It seems quite possible that a re-study in 1974 would show some retrenchment in the pace of liberalization, at least at the major selective universities, or, perhaps more correctly, a lessening of student pressure for liberalization. Two different tendencies may be at work here. On the one hand, students, as we have already indicated, are becoming in some colleges even more competitive than in the 1960s because the occupational future looks so crowded and the desire for personal autonomy, which manifests itself in undergraduate education in antagonism to all constraints, also draws upper-middle-class students toward medicine and law as careers where they can be, or so they think, their own bosses. On the other hand, in a situation which might be labeled zero curricular growth or even retrenchment, departments and individual faculty members are more desperate than ever to attract students in order to sustain themselves, their departments, and their programs, and hence are liquidating requirements when these are seen as a barrier to student traffic. One might put it this way: faculty members as well as college admissions officers are now in the business of selling freedom.

38. Harold L. Hodgkinson, *Institutions in Transition* (New York: McGraw-Hill, 1971), pp. 26-33.

39. Except for a short time in the immediate postwar veterans rush, there has never been a time when a student, who could pay tuition and the cost of subsistence, could not find entry in some college somewhere. Only a small minority of colleges has ever been seriously selective. And at the graduate level, apart from medical schools and some programs of a specialized sort, such as clinical psychology, almost anyone with a baccalaureate degree and tuition can get further education somewhere. The law schools, for example, are like accordions, susceptible of almost indefinite expansion; and there are always many more new doctoral programs than candidates to fill them. Students and their families tend generally not to be aware of these facts and to believe that they had been selected, when, in fact, they have merely been admitted to an open-door institution.

40. The distinction between sponsored and contest mobility has been greatly illuminated by the work of Ralph H. Turner; see, for example, "Sponsored and Contest Mobility in the School System," *American Sociological Review*, vol. 25, (1960), pp. 855-856; see also "Mobility or Equality?" in Christopher Jencks and David Riesman, *The Academic Revolution* (New York, 1968), pp. 146-154.

41. Private communication with M. Elizabeth Jacka, Executive Vice-President of the National Merit Scholarship Corp., March 29, 1974.

42. As insiders, we do not believe that the prestige of the more distinguished colleges is largely factitious; there are real advantages beyond imagery and prestige. But these are advantages largely for those who will be winners once they arrive. It is a poignant experience to talk, for example, to an applicant to Radcliffe who believes that the bottom will fall out of her world if she does not gain ad-

mittance; when the admissions interviewer tells her that Radcliffe is a good bet only for the highly self-confident, such students may conceal their shaking knees and clench their fists and vow self-confidence, as they would lay claim to any other trait they think might gain them entry. But then, rich men can never say to poor men: Why do you want my ulcers?

43. Although the SAT had been developed in 1926, it was not much used until Harvard, Princeton, and Yale broadened their meritocratic search in the late 1930s. The usual College Entrance exam was given in late summer, and Harvard felt it was losing out in recruiting bright students from the West who were already headed for the best state universities. They needed a short test that could be given on a Saturday morning in April, and in 1937 they began to use the SAT along with three short achievement tests developed by the American Council on Education. Frank Bowles, *The Refounding of the College Board, 1948-1963* (New York: CEEB, 1967), and private communication with Sam A. McCandless of the College Entrance Examination Board, March 26, 1974.

44. Comparison of recent editions of one of the best known college guides, James Cass and Max Birnbaum's *Comparative Guide to American Colleges,* indicates something of the shift in the last several years away from an emphasis on test scores to an emphasis on the degree of student free choice. In the introduction to the 1972 edition, a statement appears: "We are witnessing a retreat, today, from the excessive emphasis on academic grades and test scores that marked the 1960s. . . . Therefore, assessments in the Selectivity Index have been treated with special care." This and other recent editions also note that students have been consulted in making judgments about colleges, a new development. Plainly, the customer is again being courted in a way that was not true for the selective colleges in the 1960s.

45. This last impulse seems, to our regret, to have spent itself, and America may in terms of languages be reprovincializing itself as in colleges and in high schools and at the graduate level, also, language requirements are dropped—not that standards of literacy in spoken and written English are being correspondingly improved.

46. Both the proportion of the age-grade graduating from high school and the proportion of graduates going on to college increased, but the share of students finishing high school accounts for most of the increase. About 40 to 50 percent of high-school graduates went on to college for most of the century, although this increased to about 60 percent by the late 1960s. What is remarkable is the increase in the proportion finishing high school: about 17 percent of the age-grade graduated from high school in 1920 whereas 75 percent did by 1968. See the *Digest of Educational Statistics* (Washington: U.S. Office of Education, 1972), p. 14, and Seymour E. Harris, *A Statistical Portrait of Higher Education* (New York: McGraw-Hill, 1972), pp. 351 and 418.

47. See Kenneth M. Wilson, Research Memorandum, "Increased Selectivity and Institutional Grading Standards" (Poughkeepsie, N.Y.: College Research Center, 1966), p. 6. Wilson here compares successive classes to the 1958 norms. Thus, the average student in 1963 had higher SAT-M scores than about 77 percent of her 1958 counterparts, higher CEEB achievement averages than about 75 percent of her 1958 counterparts and higher secondary-school rank than about 60 percent of the norm class. There was no significant increase in freshman grades, however, although a rise to the 63rd percentile in average grades would have been "predicted" on the basis of higher entering scores. Hollins, Mount Holyoke, Vassar, Wheaton (Mass.), and Sweet Briar Colleges participated in the study.

48. This trend is documented also by Sam Webb, "Measured Changes in College Grading Standards," *The College Board Review,* issue 39 (1959), pp. 27-30 and in William Spady, *Peer Integration and Academic Success: The Drop-out Process Among Chicago Freshmen,* unpublished doctoral dissertation, University of Chicago, 1967.

49. See Michael Young, *The Rise of the Meritocracy, 1870 to 2033* (London and New York, 1958, 1959); and discussion in David Riesman, "Notes on Meritocracy," *Dædalus,* vol. 96, no. 3, (1967), pp. 897-908.

50. Kenneth M. Wilson, *Characteristics of Freshmen Entering CRC-Member Colleges During the Period 1964-1970: A Summary of Survey Data* (Princeton: Educational Testing Service, 1971), pp. 35-98; data for Vassar in 1970 excludes males.

51. See Jesse R. Pitts, "The Hippies as Contrameritocracy," *Dissent* (July-August, 1969), reprinted in

Dissent (Spring, 1974), pp. 305-316; and discussion in Robert S. Weiss, Edwin Harwood, David Riesman, "Work and Automation: Problems and Prospects," in Robert K. Merton and Robert Nisbet, *Contemporary Social Problems* (3rd ed., New York, 1972), p. 574.

52. See, for example, a discussion of "Lonely Successes" in David Riesman, Nathan Glazer, and Reuel Denney, *The Lonely Crowd* (Yale paperback ed., New Haven), pp. 155-156.

53. Christopher Jencks in *Inequality: A Reassessment of the Effect of Family and Schooling in America* (New York: Basic Books, 1972), p. 264, argues that we should teach the young to be ashamed of competitive advantages: "Official rhetoric cannot create a world without selfishness or a world where no one uses competitive advantage for personal gain. It can, however, often help create a world where people feel ashamed of such behavior." Upper-middle-class blacks, of course, were often more guilt-ridden than whites in winning academic honor in competition with blacks from the ghetto.

54. Daniel Yankelovich, *The Changing Values on Campus: Political and Personal Attitudes of Today's College Students* (New York: Washington Square Press, 1972), p. 47.

55. *Ibid.*, pp. 41-68.

56. American Council on Education, "Summary of Data on Entering Freshmen," Office of Research, Fall 1966 and Fall 1973.

57. Robert Pace found that in 1965 selective liberal arts colleges scored about 65 percent on his propriety scale (which measures student agreement with a description of their college as one that is mannerly, considerate, proper, and conventional) and denominational liberal arts colleges scored nearly 90 percent. In a resampling in 1969, he found that no type of college scored above 50 percent on the propriety scale. See Pace, *The Demise of Diversity? A Comparative Profile of Eight Types of Institutions* (Berkeley: Carnegie Commission, 1974), pp. 10-11.

58. Robert H. Somers, "The Mainsprings of the Rebellion: A Survey of Berkeley Students in November, 1964" in S. M. Lipset and Sheldon S. Wolin (eds.), *The Berkeley Student Revolt: Facts and Interpretations* (New York: Doubleday, 1965), pp. 530-557. Somers notes that while students did not support protest out of pique with their teachers, this should not be interpreted as suggesting there are not many educational complaints. Somers also reports that a survey of 600 Berkeley demonstrators by Glenn Lyonns showed that 44 percent were dissatisfied with the educational process. Somers' sample of 285 was drawn randomly from the entire campus and showed no marked differences in satisfaction with quality of education between those who protested and those who did not. Somers found that about 17 percent were markedly dissatisfied with educational quality. Of course, on a campus of 27,000 this is a sizable number of students.

59. For a review of the studies showing that the number of protests dedicated to changing the university increased steadily from 1965 to 1970, see Seymour M. Lipset, *Rebellion in the University*, pp. 71 ff. Somers, repeating his 1964 survey in 1968, found significant increases in reported dissatisfaction with courses, showing perhaps some effect of the increased attack on educational targets, although, as we have noted, we do not think satisfaction with quality of offerings was really the issue.

60. The only society where one can find anything approaching America's level of diversity would seem to be India. See Susanne Hoeber Rudolph and Lloyd I. Rudolph, *Education and Politics in India: Studies in Organization Society, and Policy* (Cambridge: Harvard University Press, 1972), especially Part I.

ROBERT E. MARSHAK

Problems and Prospects of an Urban Public University

> Not a single human achievement was conceived or realized in the bracing atmosphere of steppes, forests or mountain tops. Everything was conceived and realized in the crowded, stinking little cities of Jerusalem, Athens, Florence, Shakespeare's London, Rembrandt's Amsterdam. The villages, the suburbs, are for the dropouts . . . we will decay, we will decline if we can't make our cities viable. That's where America's destiny will be decided—in the cities.
>
> Eric Hoffer

> The land-grant college movement was one of the most revolutionary ideas in the history of higher education both in the United States and in the world. It provided the momentum for the development of colleges with a new sense of direction to the needs of a dominant force in American society at that time—rural America. Today we need a similar commitment to direct the attention of our colleges and universities to the concerns of urban America.
>
> The Carnegie Commission on Higher Education

TRANQUILITY HAS APPARENTLY returned to most American campuses in the 1970s and, except for the financial crunch on faculty and administration and increasing concern for postgraduate jobs on the part of students, the educational fallout from the turbulent sixties is minimal. The same cannot be said of the campuses of urban public universities located in the inner cities, where the situation can best be described as that of an "uneasy truce."

The public institutions of higher learning located in the inner cities are in a class of their own: financial support from the public coffers obliges these educational institutions to serve all members of the urban community; location in the inner city propels these educational institutions into a conscious concern for the all-pervasive and exacerbating problems of ghetto life right outside their gates. The urban public university located in the inner city is truly part of the urban environment and must respond to the insistent urban pressures upon it by a thoroughgoing reassessment of its educational priorities and functions. An analysis of the institutional role of these schools leads to an identification of the following three main goals:

1. to redefine traditional concepts of "the educable" by reaching out to all groups in the metropolitan area, including the academically underprepared;
2. to develop rigorous academic curricula of relevance to urban students both in liberal arts and in professional training;
3. to institute research and service in areas related to the needs of the urban community such as housing, transportation, energy, environmental problems, and legal and health services.

Let us consider the implementation of each goal in turn and examine how the urban public university thereby discharges an essential part of its present-day responsibilities.

Outreach to the Academically Unprepared

The pursuit of the first goal—to reach out to all groups in the urban area, the academically underprepared as well as the academically prepared—gives due recognition to the remarkable demographic shifts that have taken place in urban areas during the last decade or two. Large numbers of new nonwhite ethnic minorities have settled in the cities, joining the older white ethnic groups. For a variety of reasons—economic and educational disadvantages, overt and covert discrimination, lack of role models—only limited proportions of these groups have thus far had meaningful access to higher education.

It can be argued that a college is performing its social mission simply by keeping its door open to students with sufficient high school preparation and by completely disregarding any criteria other than grades. This approach is tenable if the lower schools are operating at reasonable efficiency, if family environments are conducive to proper study habits and do not place inordinate work burdens on children, and if ghetto life has the potential for its own improvement. The actual situation is so different that something has to be done to break the vicious cycle of poverty and despair.

In New York City, something was finally done to meet the legitimate educational aspirations of the educationally disadvantaged minority groups by introducing "open admissions" in the City University of New York (CUNY) system in September 1970. Under open admissions, all graduates from the high schools of New York City are guaranteed a place in one of the units of CUNY. Those students who attain a high-school average of 80% or better or those who finish in the upper half of their high-school class are allowed to enter one of the senior colleges; otherwise they may attend one of the community colleges.

The policy of opening up the doors of an urban public university to students previously screened out because of their high-school grades can produce dramatic changes in the character of an institution—as has been the case at City College, which will serve in this article as an urban paradigm. Thus City College went from an institution which was predominantly white and Jewish over the past fifty years to one which is a microcosm of New York City's ethnic, racial, and religious distribution. Blacks and Puerto Ricans are represented in far larger numbers than ever. Irish and Italian Catholics from lower-income families have also benefited in large numbers. The City College now faces the tremendous task of trying to meet the educational needs of a large, diverse, energetic student body that is reflective for the first time of all the economically and socially disadvantaged peoples of New York City. A second change resulting from the new open door policy is the large admixture of academically underprepared students entering the College. Prior to Open Admissions, the entire student body entered with high school averages above 80%. Now, about half of the entering freshmen are academically underprepared (under 80%) and require one or more remedial courses.

CUNY and City College made the decision at the inception of open admissions that this program of access would not be a "revolving door," but that instead extensive remedial programs, counseling, and tutorial services would be instituted to enable students with sufficient potential and proper motivation to cope in due course with the regular college curriculum. It follows that for underprepared students the time spent in college is lengthened by the required remedial work, and the College as a whole is faced with some very difficult decisions concerning performance of faculty, deployment of institutional resources, and allocation of budgets.

Surprisingly, remediation on an adult level—that is, for high school graduates—is pretty much a pioneer effort. The task of finding the best method to improve verbal and quantitative skills to the degree necessary for college-level work meets with more questions than answers. Because so little research has been done in this area, it is difficult to establish the efficacy of a given procedure. At City College, a battery of tests is given to incoming freshmen to determine what degree of remediation, if any, is necessary. During the first two years of open admissions, all students requiring remedial work were put into separate language and mathematics skills classes. Although this proved satisfactory for some students, others felt that they were not being exposed to sufficiently motivating material. Several curricular experiments were tried, the most successful being a team-taught course combining basic writing, college skills, and a subject-matter course such as history, political science, or psychology. These courses serve to integrate skills and content so that the student's academic development is geared to his maturity level.

One key to the success of a remedial program is the teaching staff. Many faculty members have discovered that, with all their credentials and experience in front of a classroom, they have not been actually trained to *teach*. Many who have in the past been accustomed to lecturing to or conducting discussions with academically advantaged students are admittedly having trouble communicating with some of today's underprepared students. Substantial numbers of faculty have embraced the challenge of communicating their disciplines to underprepared students and have developed new teaching methods, curricula, and programs. Others are engaged in rethinking the bases of their own disciplines, clarifying their presentations, and developing new ways of interacting with and motivating their students. Still others, although fortunately a minority, are frustrated in their attempts, fall back on old teaching methods, and give up trying to understand their students' learning difficulties.

The only quantitative measure of success we currently have for open admissions—and it is admittedly a crude one—is the retention rate of students who entered City College with high school averages below 80%. Of those who entered in the fall of 1970, 42% were still enrolled by the spring of 1974—a figure that does not include those who transferred to another college (estimated at about 10%). This figure is encouraging since it is comparable to the national average of 50% of freshmen who graduate from senior colleges. It is clear from these statistics that open admissions does not mean open graduation or a guaranteed degree at the end of four years of college unless the faculty itself relaxes standards. For most of our students and graduates—Black, Hispanic, Asian, Irish and Italian Catholic, and others—open admissions (and free tuition) has provided an entry that would otherwise not have been available, and a ticket—for the successful student—out of the ghetto, out of inequality, out of a truncated future.

Having said all this, the reality must be faced that City College and other urban colleges are taking on a responsibility that rightfully belongs to the high schools. Today, because of open admissions, 80% of New York City's high school graduates continue with some form of postsecondary education. The dilemma in which the entire City University finds itself is that the lower schools are not yet preparing students for the new open door to higher education. High-school curricula and guidance counseling have not caught up with the fact that the vast majority of high-school graduates are entering college. At City College, we have found that students who had some college preparatory work in high school, almost regardless of their average, are doing measurably better than those students who had been tracked into a vocational curriculum. Therefore, it is incumbent upon urban public universities that find themselves in this situation to try to exercise some influence on high-school curricula, teaching and evaluating methods, and guidance counseling.

This point has been ignored too long and it is therefore significant that a cooperative effort between CUNY and the New York City Board of Education will begin in the fall of 1974. The program is designed to have the high schools identify students who have educational deficiencies before they get to college. As a first step, diagnostic tests in reading and mathematics will be given to about 20,000 students entering their senior year in high school. Based on their diagnosed needs, these students will then be given remedial or other special instruction, including some that could involve tutoring by CUNY undergraduates. In subsequent years, the tests and instructional programs will be started in the earlier high-school grades. If successful, this program would go a long way toward relieving the burden of remedial programs at the CUNY colleges.

Another method of interacting with high schools is being worked out by City College and the New York Board of Education. The idea is to help improve high-school education through a proposed cooperative arrangement with a new high school to be established on the campus. Many months of negotiations between City College and the Board of Education, the United Federation of Teachers, and the Council of Supervisors Association have resulted in an arrangement whereby the College will have a veto over the choice of principal, a percentage variance in teacher selection, and a voice in a Curriculum and Advisory Board to be composed of parents, teaching staff, and City College faculty. The new high school will not be a City College high school, but a campus high school in which City College will have significant input. The importance of such experiments is to explore and initiate improved teaching methods and courses so that students are better prepared to enter regular college work. Unless this effort is made on the high-school level, the urban universities and colleges will have to carry the full responsibility for remedial programs. By making this effort, we can envision an end to college remedial work within a decade.

Developing Relevant Curricula

The opening of doors to higher education is only part of the responsibility of urban public universities and colleges located in the inner cities. Those institutions that promise "a diploma as the key to success" stand to lose a great deal of credibility if the realities of the job market are ignored. Students who otherwise might have learned marketable skills in high school may be lured by the prospect of a college education, only to be disappointed after years of hard work. This brings us to the second goal of an urban public university: to develop academic curricula of relevance to students from the cities, both in the liberal arts and in professional training. Ideally, the second goal of an urban public university is realized in a fusing of liberal arts and professional studies—in terms of what I should like to call the "urban educational model."

I believe that the "urban educational model" should include the following ingredients:

1. The faculty should select a well-defined career objective—e.g., medicine, law, communications, or architecture—define the urban emphasis and determine the number of years it will take to educate the student for the specific career objective in a way which makes him sensitive to the problems of the urban community. The length of time may be four, five, or more years, and will determine the nature of the degree awarded at the completion of the training period.

2. After deciding on the duration of the educational program, the faculty should design a curriculum which integrates liberal arts and sciences with the professional subjects so that the motivation of the student is optimized. This usually involves the introduction of one or more professional courses during the freshman and/or sophomore years of college so that the young student becomes better acquainted with the profession to which he aspires. Such an approach has particular significance for students attending an urban public university since many of them come from lower economic levels and are concerned from the start about their wage-earning capabilities. The design of the curriculum must also take cognizance of the fact that vocational concerns must be meshed with broad knowledge, an awareness of other disciplines that are related to the professional subjects, and general humanistic values. The early introduction of professional courses has the further advantage of postponing the study of the more abstract liberal arts and science courses as well as those requiring full mastery of language and quantitative skills until later in the curriculum.

This mixing of professional subjects and liberal arts during the undergraduate years borrows the best components of the American and European higher educational traditions. In Europe, high-school graduates are academically better prepared than their American counterparts because of the more restrictive and rigorously disciplined high-school training in Europe. It is the custom in Europe for students to go directly into professional schools from high school. The American tradition has interposed the liberal arts college as a stepping stone to graduate work or professional school. This traditional model possesses the added virtue that it compensates for the liberal arts deficiencies of the American high school.

However, the usual American liberal arts/professional sequence is a luxury which many of the students at urban public universities can ill afford. Students who must make financial sacrifices to go to college are eager, for economic and psychological reasons, to be involved in professional and career training during their undergraduate years. At the same time, economic benefits will accrue to society through the conservation of resources resulting from early career decisions and from accelerated programs in certain areas such as medicine, law, and architecture.

3. The clinical, laboratory, or field work necessarily associated with the professional courses should give the undergraduate student exposure to the urgent needs of the urban community. This early and continuous exposure to the problems of the city during the impressionable college years should increase the chances of the graduate accepting a role in the urban community through the choice of a career in an urban-oriented profession, a municipal agency, or one of the new institutions concerned with urban societal needs.

4. The curriculum for the specified career goal should receive an urban emphasis. This can be accomplished through the inclusion of some liberal arts and science courses which illustrate and illumine the condition of urban life and, by the very nature of their content, demonstrate the desperate need for talented persons to become involved in the improvement of the quality of life in the cities. Many of these courses will have an interdisciplinary or multidisciplinary character because

such is the nature of the interrelated problems and needs of our urban society.

I am convinced that the implementation of the "urban educational model" as formulated above will ensure that the urban public university will serve the urban community—the total urban community—with sensitivity and intelligence. The following sampling of specific new career programs, some under way and some in the planning stage at City College, should give concrete meaning to the "urban educational model." What all these programs have in common is the attempt to prepare students for well-defined professional careers, and at the same time to implant these career goals firmly in an urban, humanistic, interdisciplinary context. The hoped-for result is a student who understands how his career relates, in the broadest possible sense, to the urban community and who is motivated and committed to serve this community.

An Integrated B.S.-M.D. Program in Urban Medicine

One of the most critical needs of American society is adequate health care. The medical requirements of all our citizens, especially minority group members living in our inner cities, are met with difficulty because physicians are not available where and when they are needed; municipal facilities, in particular, are deteriorating, and public health extension services are overstrained, understaffed, and out of date.

This situation has been traced to certain basic causes: the emphasis on research and academic advancement rather than health-care delivery; the lack of access of the poor and minorities to medical training; and the focus on the treatment of sickness, often fragmented and subspecialized, rather than on a comprehensive system of preventive medicine. These problems, requiring creative, practical, and rapid solutions, pose a challenge to all institutions of higher education, but especially to our nation's urban public universities.

City College started a Center for Biomedical Education in the fall of 1973 with a Program in Biomedical Science. This is an accelerated six-year B.S.-M.D. program designed to integrate the first two years of medical school into the College's undergraduate curriculum. The Biomedical Program exemplifies the "urban educational model" by fusing medical courses with especially designed liberal arts and science courses in the four college years and by requiring students to augment their classroom studies by clinical work in inner city hospitals. For the last two years of training, arrangements have been made with a number of medical schools in the Northeast to accept those of our students who have successfully passed Part I of the National Medical Boards Examinations.

Since the chief objective of the Biomedical Program is to produce primary health-care physicians who will serve in the urban community, the curriculum is designed to give students a broad understanding of urban health-care needs, particularly from the community perspective. This is being done by organizing special courses to convey the complex nature of city life, by exposing students to the variety of ethnic experiences and cultural traditions that form a part of life in New York City, and by having a special sequence called Health, Medicine, and Society which focuses on the health-care needs of urban populations, the anatomy of health-care institutions, and the forces that control health-care distribution. Owing to the objectives of the program, it is not surprising that the criteria for admission include not only demonstrated academic performance, but also personal traits such as high motivation, maturity, and strong social commitment. While there is an identical application of the admissions criteria to all applicants, the "biosocial" objective of the program does increase opportunities for women and minority students. Indeed, the students now enrolled in the program are a reflection of the College, and in turn of the City, with about half minority students and almost half women.

In view of the Program's uniqueness—the small number of students it can train, its accelerated nature, and the prospects for a practically free medical education—there were twenty applicants for every one that could be accepted. The resulting disappointment caused a number of applicants and their parents to charge that City College was practicing "reverse discrimination" and "instituting racial quotas" in its admissions procedure to the Biomedical Program. Although the Board of Higher Education and the State Human Rights Commission have cleared the College of using "quotas," these charges, following on the heels of the DeFunis case before the U.S. Supreme Court, have caused quite a sensation in the New York daily newspapers and much consternation among City College alumni.

However, the white ethnic and Jewish students who charged alleged discrimination were not the only groups dissatisfied. The minority groups felt that not enough of their numbers were being admitted to the Biomedical Program. The fact is, on a percentage basis, City College is training more minority and women students than the seven medical schools in New York City combined. Here, again, the urban public university finds itself in the forefront of social change and social controversy.

With hindsight, we have learned a great deal from our start-up difficulties with the Biomedical Program. The first lesson is that the introduction of any educational program of great value for the urban community must be accompanied by a carefully planned program of public dissemination of the essential information. College and Program spokesmen should be clearly oriented on objectives and special qualities of any such program. The second lesson is that admissions criteria should be clearly spelled out, particularly if factors other than academic average are given serious weight. Finally, if the admissions criteria involve human judgments, one should look for ways to quantify the evaluations to the maximum extent possible.

If we state that the basic objective of the City College Biomedical Program is to train men and women—"majority" and "minority" students—as family practitioners, general internists, and general pediatricians, one may reasonably inquire as to how it is proposed to fulfill this objective. Critics contend that many of the teachers are researchers who may be role models for specialization, that any control over students' motivations will be lost when they go on to the cooperating medical schools, and that many of the students "faked" their commitment to serve in the urban community in order to be admitted. These are serious objections that must be considered. While faculty and staff may be researchers, it is hoped that the curriculum and directed exposure to community health-care facilities and their staffs will give the students the proper motivational models. With regard to the second point, we are trying to arrange with cooperating medical schools the necessary commitments to continue to expose our students to primary health care systems and training. As for the final point, it is true that students could "fake" the urban commitment, although this commitment is evaluated on the basis of past service to the community in addition to essays and interviews. Perhaps the best guarantee of fulfilling our objective is to put some kind of clause into the admissions procedure that would require the entering students, all of whom receive free training at City College and most of whom will be getting stipends and fellowships for medical school training, to agree to serve a number of years in the urban community. Just recently, a bill was introduced into the

Connecticut state legislature requiring students who receive a state-subsidized medical education to serve for a number of years in that state. Connecticut has been faced with the predicament this past year that out of 250 medical school graduates not one applied to take the state medical board examinations. It is certainly a legitimate concern of urban public universities that create high-quality programs of special relevance to the city's needs to find methods of ensuring that graduates of these programs are both equipped and motivated to respond to these needs.

Integrated B.A.-J.D. Program in Urban Law

In much the same way that an urban public university fulfills part of its mission by training primary health-care physicians for the cities, it could extend its urban mission through the training of "primary legal-care" lawyers for service in the urban community. Since the creation of a new law school is difficult and expensive, it is more advantageous to attempt to construct the legal realization of the "urban educational model" by joining the talents of the liberal arts college of an urban public university with those of an existing law school in the urban setting.

At City College, we are currently investigating this possibility with one of the New York City law schools. The proposal which has emerged from several months of deliberations of a joint faculty committee is a six-year accelerated curriculum designed to integrate legal training with the continual study of the liberal arts and sciences. The general aim is to attract and serve students who possess unusual promise for and interest in the practice of law in the New York metropolitan community. In particular, its goal is to help fill a public need for lawyers who are both highly qualified and personally committed to deal with the problems of urban residents who are not now adequately provided with legal services.

In order to accomplish these goals, the students in the program would take courses designed to provide substantive legal training in the context of a broad liberal arts approach to social issues. Entering students would embark on a three-year program at City College that combines a core curriculum in the liberal arts, introductory courses in legal analysis, substantive law courses, urban-focused law-related courses in the social sciences, and free electives. Courses on the legal process would aim at a level of sophistication comparable to that of law school courses.

It should be noted, however, that these skills are not intended as a substitute for the study of the social sciences and the other liberal arts. On the contrary, the concept of an integrated undergraduate and law school curriculum recognizes that the study of the liberal arts should extend through the period of professional training. Thus, during their three years at the law school, students would be required to take approximately ten credits in law-related courses in the liberal arts, together with certain specified courses in law relating particularly to the problems of the urban community. Insofar as possible, there will be a context approach in the curriculum whereby students will simultaneously take law and liberal arts courses in an associated area, e.g., criminal law and sociological criminology, antitrust law and economics, family law and sociology of the family and/or anthropology.

The guiding concepts for this Law Program are quite similar to those for the Biomedical Program: training professionals for the urban community in areas where the professionals are inadequate in numbers or lacking entirely, providing relevant career goals for our students, attracting high quality and well-motivated students to the College, introducing professional courses at an early stage in the students' academic careers, and accelerating the time required for the appropriate degree which does justice to the intellectual quality of the program, students, and the economic savings for society.

Urban Architecture

In accordance with the purposes of the "urban educational model," the School of Architecture and Environmental Studies at City College has initiated major changes in its educational strategies during the past five years with regard to style, curriculum content, and training objectives. The School is now dedicated to training professionals who, it is hoped, will play a major role in transforming the man-made physical environment of New York City into a more humane, attractive, and convenient place to live and work. This mission is a sharp change from the days when architectural students at the College learned how to design ski lodges and delved into the theoretical problems of building plastic apartment houses. The new mission also takes into account that 60–75% of the graduates will work for public agencies, with a large part of the remaining ones employed by firms that specialize in public agency projects.

The curriculum has been changed to reflect this emphasis and need. Previously, 75% of the curriculum consisted of professional courses. Now, 50% of the courses are professional and the other 50% are drawn from the liberal arts. Thus, students receive not only professional training, but also the contextual background—in economics, sociology, political science, and anthropology—that will lead them to a broader understanding of urban society and its institutions. One year of the program is devoted to an independent project dealing with the solution of an actual New York City problem.

Students are trained to work out architectural problems that actually exist in New York City, e.g., playgrounds, multipurpose buildings, Times Square revitalization projects. They go through all the steps that a professional architect would—client relations, city building code and other governmental regulations, public hearings, community meetings. They are motivated to raise the quality of urban life in architectural terms through this contact with the "real world."

The School also participates with the community in helping it to develop architectural design plans. It offers something along the lines of "extension services," a component of Clark Kerr's concept of an "urban-grant" university. As part of the School's movement toward creating new career programs that further the goal of serving the urban community, two are particularly worthy of note: Urban Design—unique in that the student works part-time for a City agency engaged in urban design programs as well as taking classes; and Urban Landscape Architecture—the first program in the country to be devoted specifically to the open spaces in a densely built, major metropolitan area.

Serving Community Needs and Priorities

The third identified goal of an urban public university is to institute research and public service in areas related to the needs and priorities of the urban community. Significant institutional initiatives in this direction might be rewarded by some form of "urban-grant" support by the federal government. It will be recalled that the land-grant colleges during the past century served the agricultural communities and were in turn assisted by the federal government through the Morrill Act. Following this line of thought. Clark Kerr has suggested that urban-grant colleges should be given federal support to serve the crisis-ridden metropolitan communities through the channeling of intellectual talent and fiscal resources into the design of urban-related curricula, the fostering of on-campus urban-oriented research, and the creation of community-based "experiment stations" and "extension services."

In my opinion, the "urban educational model" is a natural instrument for the design of urban-related curricula by providing the framework for new modes of teaching, training, and apprenticeship that will help produce for the next decades the kinds of urban professionals who can deal effectively with the problems they will face. The fostering of on-campus urban-oriented research can be undertaken by a joining of forces of the faculties responsible for the implementation of the "urban educational model" with interested faculty in the traditional disciplines. Research teams can be organized as balanced interdisciplinary groups including professional faculty social scientists, scientists and applied mathematicians, and representatives of other relevant disciplines. Moreover, the faculty can make their talents and resources available for the creation of community-based "experiment stations" and "extension services." With suitable controls, they can participate in a limited number of projects, not as allies or advocates, but as respected sources of information and advice.

Conclusion

At City College, some concern has been expressed that some of our special programs such as the Biomedical Program and the proposed Law Program are intended to reduce the College's commitment to open admissions. I think that our new programs complement the open admissions policy and demonstrate our desire to design programs with enough flexibility so that underprepared students have a good chance to pursue careers that might not otherwise be open to them. Special guidance and tutorial programs plus leeway in the time necessary to complete programs help achieve this goal. At the same time, these innovative programs are beginning to attract many academically superior students back to City College. Such students should provide models of interest, motivation, and achievement to less prepared students of all ethnic groups. This delicate balance between equal educational opportunity and academic excellence, while sometimes difficult to maintain, should serve to create a stable, multiethnic university of high quality.

The challenge of serving the urban community is filled with problems and frustrations. The solutions often seem impossible to reach. But if successful, let me repeat, the implementation of any one of the three articulated goals of an urban public university would make an important contribution to the ailing cities of this country. The simultaneous and successful implementation of all three goals would create an outstanding urban university center of teaching, research, and dedicated public service. Let us hope that a number of urban public universities located in inner cities will strive to achieve these goals and this promise. The "uneasy truce" that now all too commonly prevails at these institutions will then give way to a campus atmosphere wherein persons with shared purposes can live and learn harmoniously together.

ASA S. KNOWLES

Cooperative Education: The Catalyst for Innovation and Relevance

THE CONCEPT OF innovation has become the focal point for the enormous variety of developments that have taken place in American higher education over the past decade. So enamored have educators become with this concept that they have often deluded themselves into thinking it their own contemporary invention. But innovation in education has been the hallmark of American colleges and universities since their inception. Relevance, the much acclaimed raison d'être of innovation, has been the basis of our educational system for centuries. Throughout our history the growth, development, and organization of higher education have been characterized by responsiveness, through innovation, to the needs of our society.

If innovation and relevance are to continue to direct our educational development in response to the needs of the future, we must begin now to plan our higher education institutions and our manpower needs, which most certainly will be in close alliance in the years ahead. One of the most significant innovations in higher education is cooperative education, which may well hold the key to preparing us for this task.

A Tradition of Innovation

The colonial colleges, established in New England in the seventeenth and eighteenth centuries, were created to supply clergymen and civic leaders for a nation seeking to establish its own identity. As the country expanded, the development of the agrarian West gave rise to a need for leadership skilled in advanced agriculture and mechanical techniques. This atmosphere spawned the land grant colleges, through the Morrill Act of 1862. These "people's universities" provided the educated manpower necessary to harness and direct the agricultural and industrial potential of a blossoming young economy.

Graduate programs began at Yale University, but they had their greatest development at the Johns Hopkins University under the direction of Daniel Coit Gilman. Gilman was a nineteenth-century innovator who saw the need of infusing the German concept of research into the infant American college system.

The marriage of Morrill's land grant concept and Gilman's sense of the importance of research has produced a sophistication in agricultural techniques which today enables 5 percent of the American labor force to feed our entire nation as well as much of the rest of the world. Many foreign educators have expressed the view that this has been the United States' greatest educational accomplishment.

The growth of graduate education was paralleled by that of professional education at the undergraduate level. During the nineteenth century, the apprenticeship system, which had long served such fields as medicine and law, began to give way to proprietary school offerings and professional courses as part of the college curriculum. The country was then a more urbane society in need of more professional personnel.

Today, access to many professions is achieved only through the completion of accredited university degree programs. It took nearly two hundred years to establish the undergraduate liberal arts tradition in America, but the concepts of graduate and professional degree programs were institutionalized in half that time.

In the late nineteenth and early twentieth centuries, the growth of American higher education gained momentum. Junior colleges, women's colleges, black colleges, professional schools, military academies, theological seminaries, and even colleges designed specifically for the deaf and the blind were established in an effort to make higher education available to every segment of the society. The passage of the G.I. Bill of Rights in 1944 gave further impetus to the belief that higher education was not a privilege but a right.

During the post-World War II period, a notable innovation related to the provision of higher education for returning veterans was the establishment of the Associated Colleges of Upper New York State. This was a consortium of 19 colleges sponsoring two-year programs conducted at former military bases. It provided basic education for veterans, with the expectancy that the students would ultimately transfer to existing four-year colleges and universities. Seventeen thousand students were served in this single enterprise. It was understood that these temporary G.I. colleges would "wither on the vine" when they had fulfilled their mission.

In the 1950s Sputnik was launched and almost overnight American education moved into an age of science. The explosion of the civil rights movement followed on the explosion of rockets, heralding a new era which saw black students from places such as the University of Alabama and University of Mississippi rising up to demand their equal right to higher education.

By the 1960s not a segment of American society was left unchallenged by the new generation of students who had learned, from the social consciousness of the day and from the higher education they were engaged in, how to question. And question they did. The campuses quickly felt the sting of these questions.

Who has access to higher education? How should subjects be taught? How are institutions of higher education to be governed? How can they be financed? What roles should students and faculty have? Out of the response of the colleges and universities to these questions have come several of today's innovations.

Contemporary Trends

ACCESS: Several steps have been taken to make higher education more accessible to more people. Community colleges have been expanded to offer commuting students a wide variety of two-year programs leading to diplomas and degrees. Many four-year colleges and universities have established a policy of open admissions. Universities Without Walls have come into being, modeled on the British Open University. Adult education has mushroomed, particularly around large universities offering external degrees through evening classes and correspondence study. Advanced level examinations have been developed to enable students to begin their college education at a point commensurate with their level of knowledge. Women, minority groups, and handicapped persons have access to higher education to a degree unknown a generation ago.

New Patterns of Instruction: Patterns of instruction have been broadened to make use of the many new methods made possible by the growth of educational technology. From the language laboratories of a generation ago, we have moved into an age of computer-assisted instruction, cassettes, videotapes, closed-circuit television, and radio. Courses are given by public television. Library networks and microfiches have made vast areas of knowledge instantly available. New calendars based on new patterns have been introduced to allow for a greater variety of educational experiences. Interdisciplinary methods are bringing many areas of specialization together to solve problems ranging from pollution to poverty.

Adult Education: As knowledge increases at a rapid rate, and more leisure time is becoming available to more people, two types of higher education are growing simultaneously: professional continuing education and adult education for the enrichment of life. Many institutions are creating programs with the built-in flexibility that these require. Industries often work cooperatively with universities and colleges to provide continuing education for employees; and there are programs aimed at keeping members of the professions abreast of new developments in their fields. At the same time, for those who wish to study for personal enrichment, nonprofessional courses are offered in human and family relations, domestic arts, literature and the arts, languages and travel, and a variety of crafts.

Campus Life Styles: Students of legal age have emerged during this decade as full, responsible adults before the law. On many campuses they are now making their own decisions about their living arrangements, and several choices are often available to them. There are more students today living in rooms and apartments off campus. There are more commuting students. On-campus students can choose from among many options, including coeducational dormitories and traditional dormitories under strict study rules.

Governance: The internal structures of institutions of higher education are being modified throughout the nation in response to demands for greater participation on the part of the college or university community. Students and faculty are joining with administrators and governing boards in making policies and establishing priorities. Students are serving on committees affecting curriculum and faculty tenure, and in some instances they are represented on boards of trustees. Faculty members are coming to the bargaining table through organized unions, seeking a major role in decisions on tenure and salaries.

Accountability: Because higher education has become more expensive at a time when more people are seeking its services, greater accountability is being required than ever before. Government agencies, industries, foundations, taxpayers, alumni, parents, society at large, and students themselves are asking, "Is this college or university using its resources in the wisest possible manner to offer the best possible education?"

In addressing themselves to this question, many state systems of higher education and statewide universities are incorporating all postsecondary educational enterprises into one system, as an efficient means of providing expanded services to the communities they serve, while still operating within a fixed budget. External structures are being modified to provide coordination of institutions of higher education in order to avoid duplication and waste in the conduct of the total enterprise of states and regions. Colleges and universities are reappraising their goals, establishing priorities, and concentrating their resources on programs significant to their heritage and purpose.

Cooperative Education

Many of these current trends are combining to make still another trend, off-campus experience, particularly significant in our society today. Many of today's educators believe that we are living at a time when the process of education can no longer be relevant when it is restricted to the classroom. Although there are many forms of off-campus experience, cooperative education is growing the fastest by far. There are now about 600 institutions offering or in the process of establishing cooperative programs on their campuses.

Traditionally, cooperative education has been defined as a program of study which incorporates alternating periods of classroom learning and paid work experiences related to a student's field of study. Today, the term cooperative education can refer to any one of a number of programs involving classroom study and off-campus experience, including those programs designated as field experiences, internships, interlude programs, professional practice, experiential work, some University Without Walls programs, industry periods, extramural terms, interval programs, and cooperative periods.

Under the traditional definition of cooperative education, certain factors must apply. (1) The student's off-campus experience should be related as closely as possible to his field of study and individual interest within the field. (2) The employment must be a regular, continuing, and essential element in the educational process. (3) Some minimum amount of employment and minimum standard of performance must be included in the requirement for the degree or certificate presented by the school. (4) The working experience ideally should increase in difficulty and responsibility as the student progresses through the academic curriculum.

Cooperative education must not be confused with the federal College Work-Study Program, which is a part-time program designed to aid needy college students and provide them with limited work opportunities, primarily on campus.

There are three types of cooperative education: mandatory, optional, and selective. All students in a mandatory university college or department are required to enroll in the cooperative plan and to complete satisfactory periods of work or off-campus experience as part of the total requirements for their degrees. The major purpose of the optional type of cooperative program is to introduce the innovation of off-campus experience into the curriculum. Optional programs may involve only a small number of students in very large institutions or they may be limited to individual departments or colleges within a university. Some institutions require students to have their own jobs or off-campus experience determined and available before entering the program. Institutions with selective cooperative programs enroll students on the basis of academic performance. Students are usually required to maintain a specific grade-point average to qualify for and remain in the program.

Cooperative education began in 1906, the brainchild of Herman Schneider, a University of Cincinnati engineering professor and dean who recognized that most students need to work or want to work at some time during their college careers. Observing that the jobs they obtained were either menial or unrelated to their career goals, Dean Schneider found a way to satisfy the financial needs of students as well as their desire for "state-of-the-art" experiences.

Northeastern University adopted Dean Schneider's idea in its new day College of Engineering in 1909. It has since pioneered the adaptation of this principle to more than 40 fields of study involving 10 undergraduate colleges and 8 graduate schools. Today, Northeastern operates the largest cooperative education program in the world, placing over 9,000 upperclass students each year with over 2,000 employers in a wide variety of enterprises located throughout the United States and in some other countries of the world.

The early appeal of cooperative education was to economically deprived students who had need of the built-in financial advantage which enabled them to earn their tuition through their work assignments. In the 1960s, when the United States awakened to the needs of disadvantaged minorities, cooperative education was already in the forefront of institutions serving these persons. Through President Johnson's War on Poverty, federal funds were made available to assist minority students and institutions serving minorities. Cooperative programs were established at many minority colleges to help these students in their assimilation into the labor market.

Educational acceptance of cooperative education had gained impetus in the late 1950s when a study financed by the Ford Foundation found it equal in quality to traditional education and offering additional advantages. The report of this study urged expansion of cooperative education. As a result of this recommendation, the National Commission for Cooperative Education was established for the purpose of promoting greater interest on the part of both educators and prospective employers in the cooperative philosophy. The Commission, composed of leading educators and industrialists, believes sincerely that the concept of integrating work and education has been eminently successful.

Colleges offering cooperative programs have always had to meet the same standards of accreditation as traditional colleges. This is still true, but accrediting agencies that once ignored the off-campus feature of cooperative education now insist upon appraising its quality just as rigorously as they examine classroom instruction, thereby recognizing that the off-campus experience is an integral part of the educational program. All educators concerned with the question of academic credit readily acknowledge the difficulty of evaluating the educational merit of off-campus experiences. The Northeastern University Cooperative Education Research Center has been engaged in extensive work on this problem under the direction of Dr. James Wilson; and in May 1974 the Educational Testing Service also announced plans to develop new methods of evaluating and awarding credit for education achieved outside the classroom. Indeed, according to a 1972 survey, 46 percent of the institutions offering cooperative programs already award academic credit for them, such credit being a substitute for credits conventionally earned through classroom study.

The recent growth of cooperative education has been directly attributable, in part, to the large sums of federal money that have been earmarked for the development of cooperative education programs. This action on the part of the federal government marks the first time Congress has financially endorsed a specific form of education since the passage of the Morrill Act more than a century ago.

Title III of the Higher Education Act of 1965 listed cooperative education as one of the five categories under which a developing institution could request support. Cooperative Education programs were again included in Title IV-D of the Higher Education Amendments of 1968 and re-enacted in the Higher Education Act of 1972. Congressional appropriations for the first three years were $1,540,000, $1,600,000 and $1,700,000 with a substantial increase to $10,750,000 for 1973–74 and for 1974–75.

Cooperative Vocational Education Programs were included in the Vocational Education Amendments of 1968 to encourage expansion of cooperative education in community colleges and high schools. The Congress appropriated $14,000,000 for the first year of the program; the current level is $19,000,000. Through these three programs, the federal government spent $32,000,000 between July 1, 1973 and June 30, 1974 for the development and expansion of cooperative education programs.

During this period, the financial vote of confidence being accorded cooperative education was accompanied by a philosophical vote of confidence on the part of many leading educators. In 1971, for example, the Carnegie Commission Report, *Less Time, More Options*, recommended that "opportunities be expanded for students to alternate employment and study" and that "programs at American colleges that combine work experience and formal study are increasing in number and should be encouraged." The *Report on Higher Education*, popularly called the "Newman Report" and strongly endorsed by the Department of Health, Education, and Welfare, advocated the adoption of cooperative education, recommended intensive development of off-campus programs, and went on to urge that academic credit toward degrees be awarded for "appropriate" off-campus experiences. Similarly, the report of the Assembly on University Goals and Governance stated: "Students ought to be permitted to intermingle study and work in ways that are now uncommon." The Assembly report observed that more was needed than the "extension of . . . cooperative work and study programs . . . inasmuch as significant employment opportunities for students may be provided in term-time if the university recognizes the value of such experience and is prepared to admit its educational importance."

Cooperative education has at long last come into its own in large part because of the unique advantages it offers students, employers, sponsoring institutions, and society.

Many students have defined their career goals before entering college. These students have the opportunity, through cooperative education, to begin their chosen careers while they are learning the academic aspects of their professions. Other students need to explore several options before deciding upon their careers. For these students cooperative education provides a built-in guidance program. By trying out a variety of career possibilities off campus as well as in the classroom, they are able to test the available options in a more realistic manner than is possible in traditional higher education institutions. Students on the cooperative education plan often perform at a superior academic level as a result of the motivation gained by having the opportunity to test career choices and discover new career objectives. Moreover, most cooperative assignments are paid assignments, making it possible for students to earn all or part of their college expenses.

Employers find that cooperative students are enthusiastic and eager to learn. Work assignments prove to be a useful medium for the recruitment of permanent personnel inasmuch as 40 to 50 percent of all students remain with their cooperative employers as full-time employees after graduation. This percentage is even higher in professional programs. Employers are also better able to meet the requirements of affirmative action by finding women and representatives of minority groups through cooperative education placement.

Some companies employing large numbers of students have established training programs that link up with the cooperative institution's instructional program. Where this is possible, duplication of instruction is avoided, resulting in considerable financial saving for the companies.

Institutions that are wholly committed to cooperative education in a program or college find that the same resources serve 75 to 80 percent more students, because of the alternating pattern of work and study. This results in a considerable saving for the institution. In addition, student enrollments tend to be higher at institutions offering well-developed programs of off-campus experience.

Cooperative education affords minority students and economically disadvantaged persons greater access to higher education. It prepares them for advanced careers, but at the same time lessens their dependency on government grants and loans while they are students.

The advantages of cooperative education are such that its popularity is growing not only in this country, but in other nations as well. Britain has long had its version of the program through what are termed "Sandwich Courses." For some years, the Soviet Union and many countries of Eastern Europe have been incorporating periods of practical work experience into their college curricula, especially in the fields of science and engineering. Canada and Australia also have a number of institutions offering cooperative education programs.

Institutional Planning and Manpower Planning

Because the adoption of a mandatory cooperative education program results in one-half of the upperclass students being off campus, enrollment can be increased substantially and existing physical facilities used more extensively throughout the calendar year. A commitment to cooperative education in any form can result in considerable revision of an institution's academic calendar, a realignment of faculty teaching assignments, and a modified pattern of cash flow emanating from tuition collections. Moreover, because institutions participating in such programs must of necessity have close economic ties to the local community, the expansion of cooperative education can have a major impact on the supply and demand of educated manpower, both geographically and in terms of fields of study.

From all indications, the continued growth of off-campus learning would appear certain, and steps must be taken to determine in what areas such programs can best prosper. The nation has long needed a national program of manpower planning in order to make better use of its human resources. Manpower planning can provide guidelines regarding accelerating and decelerating labor markets, but there is also a need for geoeconomic planning to determine the geographical areas having the greatest potential for the development of business and industry-related educational programs. In short, there are four principal aspects of the issue at hand: the number of institutions which can be expected to offer cooperative programs; the number of students available for enrollment in these programs; the availability of jobs or other types of off-campus assignments in a given geographic locale; and the number of opportunities for paid or volunteer employment related to specific fields of study. The establishment of long-range manpower planning is a goal not easily attained because the planning of economic growth, the projection of manpower needs, and the channeling of college enrollments are unpopular concepts in a free society. But, as educators, we have a responsibility to the product of our services, and education for unemployment is not service at all.

American manpower planning is influenced by the mobility of educated manpower, including the international migration of talent. The Brain Drain is more than a euphemism; it is a major source of personnel in certain professions both in this country and in the more advanced nations abroad. The present shortage of allied-medical personnel in the United States would be even more acute were our hospitals and medical laboratories denied the employment of large numbers of professionally trained staff from abroad. Programs of manpower planning and national development in the less developed nations of the world may eventually alter this flow of manpower and aggravate our own manpower shortages still further. Educational planning must take into account such possible forecasts.

Higher education also must begin to give consideration to the manpower needs of the developing multinational industries. Many of these industries are larger than the countries in which they operate, and for this reason they exert substantial influence on the manpower development of the host countries. Businesses and industries whose activities transcend geographical borders give less consideration to the nationality of brainpower. As a result, manpower needs and educational planning assume a global dimension. In recent years, Northeastern University has begun to place cooperative work students on overseas assignments. International exchange programs have long been a part of the educational tradition, but now cooperative institutions are conducting such exchanges for the purposes of international work experience in addition to the traditional classroom study at participating institutions abroad.

The placing of students across international boundaries can make a major contribution to the unification of the world's higher education systems. Continued cooperation of this nature may, in turn, help us to develop global concepts of higher learning. A less tangible but nonetheless real advantage is that it provides students with firsthand knowledge of life in other nations, affording them the opportunity to see other nations not as tourists, not as students in a university, but as workers on the job.

The growing international dimension of higher education will doubtless give rise to many further innovations and result in a redefinition of what is relevant in a global society. Educational structures will change, and manpower planning will play an important role in institutional development. The catalyst for much of this change will be the international acceptance of off-campus experience as an integral part of higher learning. The result of this change will be a new sense of relevance in the world's educational systems.

JEROME M. ZIEGLER

Some Questions Before Us: Notes Toward the Future in Higher Education

AS WE ENTER the final quarter of this century facing at the least an unsettled future, American institutions of higher education and state and federal education agencies must ask anew some old questions about the educational enterprise and provide fresh answers which can guide policy suitable to the conditions of our time and for the decade to come. There are also new questions to be posed arising from the demands now being made on higher education; but first an attempt to describe and analyse a few old ones: (1) Who is to be educated; what are the characteristics of the present and future student body; what are the implications of these characteristics for institutions? (2) What should be taught, what learned, what should the student body know; is the issue of vocational versus general education a real one? (3) How will the curricula be taught and who or what will do the teaching? (4) There are new conditions in society affecting institutions of higher education in the deepest way—the phenomenon of "mass higher education," technology increasing exponentially in every facet of American life, and opportunity for leisure unknown in the past, to name but three. What are the implications for colleges and universities and how will they adapt to these new conditions? (5) What will be the impact upon institutions and education itself of the continued intervention by governmental agencies? If the intervention increases in the name of "public interest," what about the traditional autonomy of educational institutions; what will be the consequences for higher education?

Who Is to Be Educated?

The answer seems simple: everyone and anyone who wants to enroll in an institution of higher education, or in the nomenclature of the U.S. Office of Education, in an institution of "postsecondary" education, which now includes the trade schools and technical institutes. In the academic year 1974–75, we are embraced by the condition of "mass higher education," but not yet by the condition of universal access. The term "mass higher education," which came into vogue toward the middle and end of the 1960s, implies of course the education of everybody as distinct from the education of some body of students who are not "the masses." We have moved in the space of thirty years or so from a time when two out of ten high-school graduates entered college to a time when five out of ten continue in some institution of postsecondary education.

One does not need to rehearse the familiar figures of growth at length to know that something profound has happened. Put succinctly, it is that higher education has become a right rather than a privilege, first for the middle class, and more recently for working-class and poor families. While not every taxpayer or all educators would agree, the idea is nevertheless firmly abroad in our country that a higher education should by right belong to everyone, or at least that some form of post-high-school education should be available. Faculties in many different types and levels of institutions now believe that admission to their colleges ought to be based not on economic status but on ability, talent, and interest. Thus we have seen the immense growth in public and private student aid programs to support the children of the poor and of low-income workers attending college. Last year in Pennsylvania, $65.4 million was spent on state scholarship funds alone,[1] to which should be added $12,239,830 in federal scholarship funds.[2] Moreover, nothing in the past few years gives one reason to conclude that this trend of making education "open to the talents" will not continue, indeed accelerate. The urban poor have persevered in their demands for equal education during the decade of the 1960s, bringing pressures on admissions offices in the public colleges and universities. The rural poor, one may predict, will do likewise as the 1970s become the 1980s.

From the point of view of transforming the ideal "equality of opportunity" into living reality, and from my point of view as a public official concerned with higher education, I find this development and this trend satisfying and exhilarating. I believe anyone possessing the minimum qualification of a high school diploma should have an opportunity to enter a postsecondary institution if she or he feels capable of benefiting from the experience. But if we are on the pathway to something which could be called universal access, what does that mean? How will it be accomplished and what will the effects be upon institutions? Some developments have already taken place in American higher education which have contributed to wider acceptance of the concept of universal access and have stimulated its partial achievement: the creation of community colleges, the policy of open admissions, and the expansion of recurrent or lifelong education.

The creation of the community college is probably the most interesting change in higher education in the past hundred years. It has done for our time what the Morrill Act did in 1862—opened opportunities for a higher education to a major new student body in a new way without detracting from the old. The creation of the land-grant colleges and universities brought new kinds of students into post-high-school education after the Civil War in order to learn the "agricultural and mechanic arts." That was an important change from the then traditional student body attending small, private liberal arts colleges preparing for the professions. Now the community college offers a different kind of opportunity for higher education than has been provided by the four-year private liberal arts colleges and universities, or the state colleges (which typically began as teacher training institutions and still retain that goal chief among their purposes) and the large state universities.

What are the differences and what is new about the community college? In the first place, it is publicly supported, therefore typically a low-tuition institution serving particularly those families who cannot afford more expensive colleges. The low tuition of the community college (or no tuition except fees in the city of New York and state of California) permits and encourages enrollment from a new group of students.

In the second place, the community college is predominantly a commuter institution. Except for a very few which have dormitories, the community colleges do not house their students on campus. They have been designed for a purely local population—a district or section of a large metropolis, a middle-sized city, a small town, a rural area of some size. The fact that a community college can be located in a small town which might be the county seat of a geographically extensive area or at the intersection of major urban highways is the direct result, it would seem, of the automobile culture. Such a location brings higher education within reach of a population which might be spread over considerable distances.

If the community college has been designed for a purely local population, then it can be responsive to local interests and needs; it can try to provide what the local community wants in the way of education beyond the high school, perhaps developing specialized technical-vocational curricula to fit the economic needs of the community. Except for the very largest metropolis, where whole sections or areas of the city cannot easily be economically or industrially differentiated (though they often are ethnically), the local connections have considerable force. The community college can cater to the educational needs of both the high-school graduates who would prefer not to go away from home to college and the adults in the community who cannot attend a four-year institution. Many community college students must work while attending school; it is therefore natural that a large number of them require a curriculum which enhances their employment opportunities. Many of these students attend part-time and the average age tends to be older. In Pennsylvania, for example, in the fall of 1973 there were slightly more part-time than full-time students (31,232 to 29,470) enrolled in two-year institutions. In the years of the postwar baby boom, the community college was one answer to the demand for educational places, a demand that has not yet slackened even while overall college enrollment appears to be leveling.

Community college officials speak proudly of institutional responsiveness to the needs of their communities, whether these be courses in formal curricula or a wide range of activities falling under the heading of workshops, institutes, short seminars, and community service. Indeed, in this respect community colleges begin to rival, for a given and circumscribed locality, what General Extension of the great land-grant and state universities has been doing for many years on a state-wide basis. Community colleges thus speak as much to adults as to young people just finished with high school and to part-time as well as full-time students, whether young or older. In general, community colleges are "open admissions" institutions. They are thereby providing the first step toward universal access and are, by example, putting pressure on other kinds of public colleges and universities.

Because many community colleges have thought it necessary to duplicate the four-year liberal arts public or private college in order to achieve status with their cousin institutions, and because they genuinely need to meet the curricular requirements of students wishing to transfer to baccalaureate programs, a tension has developed between the liberal arts (or transfer) and the career (or occupational) programs, and sometimes a confusion of purpose has been the result. Transfer programs are entirely necessary for those students who wish to take the first two years close to home for personal or economic reasons and they should in no way be denigrated. Yet if such a program overwhelms the possibility of developing and providing diverse occupational and career curricula, an important purpose of the community college is lost. The struggle is a difficult one and many community colleges are still working their way through this dilemma.

It is unfortunate that community colleges are not yet fully accepted by many four-year faculties, for such lack of acceptance leads to a quest for status which can cause distortions or dislocations in program to the detriment of students. It was extraordinarily interesting to me that an articulation agreement between Pennsylvania's publicly supported state colleges and community colleges allowing students to transfer without penalty was concluded only in 1973, nine years after the organization of the community college system. There has been some pressure for community college faculties to exhibit standard academic attainments even in those technical-vocational areas where work and job-related experience might count for much more. Of course a liberal arts faculty in a two-year institution should be well qualified to teach the arts and sciences curriculum. But the community college needs to find a richly experienced and diverse teaching faculty to meet the needs of its student body and its community. How the community college solves this problem will tell all of us in higher education much that we need to know.

Community colleges through their open-admissions policy are clearly opening a gate to higher education to many students: those who graduated from high school with "general diplomas" rather than "academic diplomas," or were in the bottom quartile or quintile of their class, have not generally been admitted to college, at least not as regular students. One reason why four-year faculty worry about the community colleges and open admissions is because they fear a marked lowering of standards for what college freshmen ought to accomplish in the basic liberal arts subjects—language, literature, mathematics, science, and social science. And indeed many community college first-year students are not at the same level as the traditional four-year college freshman when they start. It often takes more than two years for the community college students to complete the Associate of Arts degree, and it may take them a while to catch up after transferring. But catch up they often do.

The community college open-admissions concept is undoubtedly changing higher education, and indeed the larger society. Many thousands of young people are now in college who would not have been there except for the community colleges; and many thousands of graduates have taken places in the economy at levels which would not have been possible for them had they entered the labor force directly from high school. But what is or what will be the effect of open admissions upon other institutions of higher education? Of course, it should be noted that many four-year institutions, urban universities, and state colleges have practiced a kind of open admissions through their evening colleges, where students who were not admissible in the regular, full-time day program could enter the university evening college, do acceptable work, and transfer to the day curriculum. But this was never a very large number of students compared with the total public community college enrollment in 1973–74 of 3,014,211.[3] Of these, the first-time students numbered 1,063,481 as opposed to 347,062 in four-year institutions and 391,214 in universities.[4] From 1972 to 1973 the percentage of first-time students in community colleges increased by 5.6 compared with −0.5 for the four-year institutions and +5.7 in the universities.[5] When the enrollment at proprietary schools, which are also by definition open-admissions institutions, is added, we can see where the majority of first-time postsecondary students are going. Is it only the lower tuitions at the community colleges that is attracting the majority of first-time students? I Think not. I speculate that the vocational-technical curricula are bringing in those students; the competition which community colleges offer the four-year institutions is resulting in the latter's expansion of vocational curricula.

American higher education will shortly be entering upon a period of declining enrollment in the eighteen-to-twenty-two-year-old category, the typical college-student body on which most colleges and universities have spent most of their resources. If the present trend continues of first-time students choosing community colleges above the four-year institutions as their entry point, the following results may be expected: (1) the problem of creating curriculum for and adjusting "standards" to open-admissions students will fall mainly upon the community colleges; (2) the pressure upon these colleges to provide transfer programs will grow; (3) the issue of whether the four-year institutions will accept the two-year graduates without loss of credit will intensify as the four-year faculties attempt to maintain their standards, which they believe to be higher; (4) but this issue will be mitigated by the competition for full-time day students, which we may anticipate will sharpen, and such competition may well foster an open-admissions policy at least in the public four-year colleges and universities.

There has been so much emotion surrounding the open-admissions concept that it is not easy to see the policy clearly for what it is. Politically, open admissions is the final thrust toward equality. It says that anyone can *start* a college education if she or he wishes to do so after achieving some agreed-upon preparation. Educationally, the policy results in large numbers of young people entering college who would not otherwise have done so, many of them from economically or educationally disadvantaged circumstances and many of them ill-prepared to engage in college-level study. Therefore if an open-admissions policy becomes politically feasible (or necessary depending upon one's point of view), then from a social and humane point of view the receiving institution must do everything it can to help and sustain the open-admissions students during their first months or years of college study, lest it be accused of operating a "revolving door" and a class-based educational program. Here the question of standards becomes very tricky, for the faculty believes that there is an intellectual tradition to uphold, while the "community" wants its students to succeed. Socially, open admissions—at least for those students who complete their studies and find decent employment as a result of having successfully attended the college—is a mechanism for the redistribution of income. The "community" and the students certainly realize this, and low income groups, rural or urban, white or nonwhite, may be expected to continue to bring pressure upon public institutions to assure their children of college entrance.

Open admissions holds that anyone has the right to begin a college education. It does not say that anyone has the right to graduate. Between the start and the finish is where the faculty has both the opportunity and the power to make or break the educational career of the new students. Faculties of four-year institutions, far from looking down on community college faculty, may have a good deal to learn from the latter in how to help open-admission students succeed without lowering their own standards. In any case, many institutions of higher education will have to come to terms over the next decade with the opportunity presented them by the entrance or transfer of open-admissions students. How to help many of these students cope with college work, stay, and succeed in their institutions will become an urgent task for which faculty in general are not themselves very well prepared. One has no easy answer except to observe that the issue deserves far more attention than it is receiving, and that faculties across the two segments might converse more than they now do.

It is a curious fact that colleges and universities have for many decades practiced an open-admissions policy when it comes to the continuing education programs they have created for adults. When President Charles Van Hise of the University of Wisconsin first organized General Extension in 1906, he remarked that "the boundaries of the campus should be coterminous with the boundaries of the state." And there followed a movement in all land-grant colleges and state universities which brought Agricultural Extension, expert knowledge, and technical information to the service of farmers and their families, and university or General Extension education programs to nonfarming adults in small towns, cities, and villages removed from the main campus. With the development of the university evening college before and just after World War I, adult education became available at the college level throughout the country. Today there are several million persons enrolled in noncredit and credit continuing education programs of the colleges and universities, in addition to the 9.7 million student body of fall 1973.[6]

The growth of opportunities for adults to learn almost anything they wish at some institution is one of the most important facts about American higher education. Indeed, with respect to adults, we are far advanced toward the condition of universal access, although it must also be said that many institutions of higher education have much to learn about how to offer the programs and curricula in more flexible and appealing ways. If institutions of higher education do overcome some of the present rigidities in their degree requirements and methods of offering curriculum—and there is reason to suppose that they will from the pressure for new students—then in the next five to ten years we may anticipate true universal access, with financial aid programs following along to support those part-time students.

What Should a College Curriculum Be?

Students at all levels and in different types of institutions are much concerned with acquiring technique. Whether it be preparation for one of the traditional professions or for any one of the thousands of jobs listed in the Dictionary of Occupational Titles, students for the most part want their college education to be training for employment. I would argue there is nothing wrong about their wish so long as higher education is not overwhelmed by this penchant for vocational expertise.

Colleges have proliferated vocational and specialized courses partly in response to student demand, and in this sense institutions could be said to be meeting their students' wishes. But do not institutions of higher education have an obligation to provide all their students, whatever their particular job aspirations, with a general or liberal education, a map of the terrain so to speak, with certain intellectual skills and habits of mind, and with a sense of self-confidence that they can and should learn throughout their lives? It has long been thought that the study of liberal arts does this better than the study of more technical subjects. But this idea also needs to be challenged afresh, for any subject, liberal or technical, can be a window to the world if well taught. And any discipline of the traditional curriculum, economics or biology for example, will be entirely technical if studied at an advanced level.

What I wish to argue is that the old contest between advocates of the liberal arts and proselytizers for vocational training is not meaningful today. We need both, and we need their interpenetration in new and fresh ways in order to give students the skills to cope with a complex and largely unpredictable future. There are signs that this is happening; I wish only to hasten the process. Interdisciplinary study of environmental and ecological issues has entered the curriculum in many colleges. Understanding the computer is now part of the general education of students in many universities. One would hope that the presence on our campuses of tens of thousands of "new" students and adults would stimulate the higher education "community" to address this question in the most serious fashion and to build upon both the life experience of these new students and their needs for what a college education can give them in order to construct a new curriculum, or more properly, new curricula. In many ways this seems to me the most challenging and exciting intellectual problem faced by faculties today.

How Will the Curriculum Be Taught?

Many faculty members make little or no use of the technology available to help students acquire information. Television, tapes, cassettes, programmed learning packages, the computer, and dial-access technology have transformed the way information is delivered, and indeed young students today have acquired a great deal of information from television by the time they arrive as freshmen. But often teachers seem put off by all the new technology and simply fail to make use of it, relying instead on the textbook and the lecture.

I have the impression from talking with many faculty members that they are somewhat skeptical of these methods. But if faculty could be persuaded to learn how to use them with confidence, their own function could be altered with advantage to the student. Faculty could then become not merely purveyors of information, although that would always be part of their task, but they would have more time to interpret, to ask the questions of implication, to help students develop insight and a point of view. In short, technology should free the teacher to weigh more heavily the "adventure of ideas," to borrow a phrase from Whitehead, and to think about combining theory and practice, abstraction and concrete fact in fresh ways so that the distinctions between what is "liberal" and what is "technical or vocational" will break down.

This leads directly to a second observation that the typical young faculty member enters upon a college career with little or no training in teaching. What usually happens? A graduate assistantship, taking a few seminars for the senior professor, marking papers, and monitoring examinations are for the great majority the only experiences prior to becoming a faculty member. Young teachers look to their own professors as models, to be sure, both the good and the bad, and draw what lessons they can; but generally they have no real experience of teaching before they begin.

Not only do new college teachers receive little or no training before they start; they do not receive much help from older more experienced faculty afterwards. Nor is there a systematic training program at any stage of their development. If young faculty members are not gifted and receive no early training or continued assistance, one can hardly expect them to become good teachers. The problem of training young faculty to do their job well, and of renewing older faculty who may have grown stale, needs attention.

The question is what to do about it. Should institutions of higher education begin a program of faculty preparation and training similar to the teacher training programs for elementary and secondary-school teachers? Should there be at some point during the years of graduate study toward the Ph.D. a full student teaching term—field experience or internship—under the guidance of an experienced faculty member? Should a prospective college teacher have to take some kind of examination or qualifying experience as an integral part of his or her academic program? Should, indeed, a curriculum on the problems of college teaching be developed as part of graduate education? Should senior faculty accept as part of their regular responsibility the obligation of training young people to be college teachers? Should colleges of education accept a responsibility to do this on the larger campus of which they are a part?

My own answer is yes to all these questions. I believe it is time for senior universities to take such a responsibility seriously and to create a program, a curriculum, an institute—call it what you will—for the training of prospective college teachers, and to create at the same time some mechanism for the renewal of faculty members who have been teaching five, ten, fifteen years. The effect on the whole college or university community from such innovations would be beneficial and illuminating, for they would provide models of the teaching-learning enterprise which all too many young students miss, and they would result, one would expect, in the pronounced improvement of classroom instruction.

Further questions are: What should governing agencies do about improving the quality of college teaching? Do state departments of education have any responsibility? Should certification be extended to higher education institutions, at least the publicly supported institutions? I would not myself be ready to support such a policy, for I do not believe that department of education personnel in general have the experience or qualifications to make such judgments. But governmental agencies can and should encourage colleges and universities with moral and financial support to undertake these tasks.

Providing budget and encouragement are probably the chief means by which state and federal educational agencies can contribute to this development; and I would hope that significant amounts will be forthcoming in the next few years, for I can think of nothing that would enhance the average student's educational experience so much as improving the quality of teaching. There have been half a dozen or more important innovations in the undergraduate curriculum during the past decade; field internships, interdisciplinary study, independent study, the non-major-major, the organization of curriculum by modules or by important themes, the growth of special subject-matter institutes, time-shortened degree programs, cross-registration among adjacent institutions, credit by examination, new grading patterns. They have contributed much to making the college experience more interesting, varied, and responsive to student interests. As one reads through catalogues of two-year and four-year colleges and of major universities, one is struck by the possibilities open to students today for studies outside the traditional mold. And yet the subject of the quality of instruction is not really addressed except for affirmations that in such and such an institution the faculty-student ratio is low, classes are small, there is good faculty-student interaction, and the faculty have advanced degrees from prestigious universities.

Statements such as the above do not show sensitivity to the issue, and do not comprise a program. What is needed throughout higher education is serious institutional attention to the training of prospective college teachers and the renewal of those who have been teaching for some years. Perhaps one percent of every institution's annual budget spent on these purposes would not be too small to achieve significant gains in the years ahead. For the sake of the students, particularly the "new" adult students who need good teachers even more, and for the sake of the whole academic enterprise, higher education must develop programs that speak to this issue.

How Will New Conditions be Met?

Robert Hutchins has said recently that "the future of education is the future of everything else." I take it he means that anything and everything of consequence that occurs in the broader society affects educational institutions. To carry that point another step, let me observe that educational institutions have no direct effect upon or control over several major factors which themselves profoundly influence education. For example, one might argue that the growth of the American economy and the increasing spread of technology throughout have had enormous influence on the desire of large numbers of young people for a higher education, chiefly vocational in nature, in accord with their goals and aspirations for a good life, a higher standard of living than their parents enjoyed, and the kind of job which makes both possible.

The growth of technology has had another impact upon higher education. The work week for millions of people in the service sector of the American economy is now only 37.5 hours and in the industrial sector, 40 hours. For many millions of adults who do not "moonlight," therefore, leisure is now an important element; for many, the achievement and use of leisure is the reason for working. "Have a good weekend" is the most common form of taking leave of one's fellow workers on Friday afternoon. The relationship of education to the quantity of leisure enjoyed by adults now becomes not only a most interesting but perhaps a crucial question—if one believes that what people learn has an effect upon what they do and what happens in society.

Four years ago, Professor Stanley Moses of the Syracuse University Educational Policy Research Center devised the term "learning force" in a paper he prepared for the U.S. Office of Education in which he estimated there were just under 50 million adults participating in continuing education in 1955.[7] The ideal of an adult "learning force" which comprises almost one-quarter of the total population and which has the time to engage in some kind of learning activity has truly revolutionary implications for institutions.

For example, the majority of adult learners will be part-time students; that is clear. We can assume that initial motivation is at a high enough level when it brings the adult to the college. But how to sustain it over a long period of time for those who enroll in degree programs? What kind of advising and counseling is necessary, and how to train both counselors and faculty to deal well with adults? The central focus of the college and its faculty is on the preparation of eighteen-to-twenty-two-year-olds for adulthood. But the adult learner is already a mature person, equal—indeed, often superior—to the faculty in life experience.

The new "nontraditional" methods of organizing a curriculum—external degree, university without walls, and off-campus learning centers—have been developed in response to such adult needs. When combined with other innovations and technological inventions of the past couple of decades such as independent study, credit by examination, programmed learning, computer-assisted instruction, and television, faculties have at their command a powerful array of learning tools and methods which, I believe it is fair to say, most of them have not yet learned to use.

Here we return to the question of the training of college teachers and observe that faculties ought to receive training in the use of such tools and methods if they are to serve the new adult student body well. This would suggest the development on some regional basis, perhaps at the large state universities, of faculty training-learning centers or institutes. New programs will then have to be conceived by many institutions and new financial resources will need to be found to support them in the decades ahead. Thus a recognition that the adult learning force is equal in importance to the traditional post-high-school student body will have, or should have, a profound effect upon the educational institution wishing to serve the "new student"; all of which is to repeat that the purpose of higher learning and of the educational institution must constantly be under examination and discussion.

What Will Be the Impact of Government Educational Agencies?

No one would disagree that college and university faculties and administrations in both the private and the public realm are less free today to do what they please in and with their institutions than they were twenty years ago, or ten years ago. State and federal agencies lay down goals and objectives with respect, for example, to equal educational and employment opportunity, and criteria by which to judge practice and achievement, which have impact upon almost all phases of institutional life, including curriculum development and faculty recruitment, hiring, retention, and promotion. Federal research contracts, for another example, may impose restrictions on normal academic procedures of information dissemination and discussion which are in direct conflict with academic freedom. Notwithstanding that universities or individual faculty members may be free to accept or reject federal research projects, such restrictions can have a powerful effect upon a department, a school, or an entire institution.

Whether it is good or bad that institutional autonomy has been reduced cannot be easily answered in the abstract, although I am much troubled as a public official by the general drift of policy in recent years. For I believe that central bureaucracies do not know how to do things in higher education so well as the permanent members of a college or university community. Yet central agencies do have or should have a view of the whole on any given public policy which should be more comprehensive and objective than that of any single institution. On the issue of equal opportunity and affirmative action just referred to, state and federal agency pressures upon institutions have had good results in increasing nonwhite student enrollment and opening up employment. From my perspective, governmental intervention in this field has been crucial to progress—painful perhaps, but crucial.

When one turns to the matter of program and curriculum development, what the proper relationship of educational agencies to colleges and universities should be is more difficult to decide. If, for example, state colleges are graduating far more teachers than can find employment at current levels of teacher utilization, and they are being educated basically at public expense, what is the state agency's duty? Should the agency try to influence the institutions to broaden degree offerings both in order to provide greater choice to the students and to meet public need for graduates trained in a variety of fields? Should the agency attempt to set state-wide priorities for broad program and curricular development? I believe it should. At the same time, the actual task of conceiving curriculum belongs to the faculty and should not be interfered with.

In the important and expensive areas of graduate and professional programs in public institutions, problems of budget allocation and coordination among or across institutions are especially acute. Should questions of faculty workload and the ratio of research to teaching be left entirely to the persons directly involved? What is the role of a state agency in establishing policy in this thorny area? Legislatures are likely to decide this issue themselves, often in a punitive fashion. Therefore the state agency needs to intervene, explaining, persuading, effecting a compromise which protects faculty rights but which meets public needs.

This whole problem is complicated by the role of private institutions, which are coming to be seen more and more as providing a public service, and which are standing in need more and more of financial assistance from government. Tough discussions lie ahead as to whether federal and state agencies can impose national or statewide priorities or standards upon private institutions of higher education. Among public colleges and universities, there is some recognition of the weight of public interest as defined by the legislature or the department of education. This is not yet the case with private institutions; nor, one supposes, will these institutions want to place themselves under legislative or departmental mandates. That is quite understandable given their tradition, but the general issue of "accountability" in both the public and the private sphere must be addressed. Private higher education will have to accommodate the public interest if it desires tax support, and therefore to some extent its autonomy will be limited. Again, controlling teacher-education enrollment and reducing competition among expensive graduate and professional programs are examples of two difficult questions which almost any state educational agency will be facing in the next few years.

As the competition for students and dollars grows, problems of statewide planning and coordination among all segments of higher education will become more acute. The debate over what is the public interest in any particular case will be intense for institutions will stand or fall depending upon their share of the market. As Lyman Glenny has been pointing out, the traditional eighteen-to-twenty-two-year-old market will decline, sharply; but as he and others have also been telling us, the nontraditional market of adults will grow.[8] Inevitably, state agencies will be called upon to decide important issues concerning the allocation of public funds to different purposes, and the allocation of broad program areas to different segments or kinds of institutions. The time just ahead will not be easy.

REFERENCES

1. Figures from the Pennsylvania Higher Education Assistance Agency. Figure includes Pennsylvania Higher Education Assistance Grants including Basic Program and Program for Veterans during academic year 1973–74.
2. Academic year 1973, $9,207,132 was initially allocated to Pennsylvania institutions of postsecondary education from the Federal Supplemental Educational Opportunity Grant Program. (*Procedures for Allocation of Supplemental Educational Opportunity Grant Program Funds for Use During Fiscal Year 1974,* published by the Program Support Division of Student Assistance, USOE, June 15, 1973.) In addition, $3,032,698 was disbursed to Pennsylvania students through the Basic Educational Opportunity Grant Program. (BEOG figure is unofficial data based upon progress reports from USOE Region 3, Philadelphia, for Fiscal Year 1974, processed through July 25, 1974.)
3. "Opening Fall Enrollment 1972 and 1973," *The Chronicle of Higher Education,* January 14, 1974.
4. *Ibid.*
5. *Ibid.*

6. *Ibid.*

7. Stanley Moses, "The Learning Force: An Approach to the Politics of Education," Educational Policy Research Center, March, 1970.

8. Lyman A. Glenny, "Pressures on Higher Education," reprinted from *The College and University Journal,* vol. 12, no. 4 (September, 1973), p. 2.

LEWIS M. BRANSCOMB AND PAUL C. GILMORE

Education in Private Industry

IN AMERICAN INDUSTRIAL circles there is an increasing concern over the intellectual vitality and, more importantly, the intellectual flexibility of industrial personnel. An accelerating pace of social and technical change clearly calls for some form of continuing education for which many of our colleges and universities are not yet effectively organized. The larger corporations are increasingly concerned with viable techniques of management that contribute to stability of employment and continued employee effectiveness under full employment policies. General concern for the overall well-being of employees throughout their careers accompanies the general trend toward benefits other than financial compensation. These concerns are bringing industrial education increasingly into contact with elements of what is called a "liberal education." Further, largely because they must pay their students a salary, corporations are under even greater economic pressures than conventional educational institutions to increase instructional efficiency.

On the academic side, although the balance between vocationalism and liberal education has changed throughout history, it seems inevitable that as the fraction of the high-school-graduate population that goes on to higher education increases, the vocational and professional content in education offerings will rise. This consequence is also likely to result from intensifying pressures for increased educational productivity and responsiveness. Yet any such trend will result in greater similarity between education in industrial and in academic settings. Further, the combination of the steady extension of the number of years devoted to formal education, the expansion of educational opportunity to lower income groups who must work while going to school, and the trend toward marriage before the end of formal education, all will tend to blur the line that once divided the four-year residential college experience from the working world of college graduates.

Although these trends may lead to renewed interest in the role of the business corporation in educational activity, and even raise some public policy issues that are new to our experience, corporate training of employees is not itself a new phenomenon. Indeed, by 1913 a sufficient number of corporation schools had been formed to lead to the organization of the National Association of Corporation Schools (NACS). Among the companies represented were American Locomotive, American Telephone and Telegraph, Burroughs Adding Machine, Cadillac Motor Car, Carnegie Steel, and Commonwealth-Edison. Even then, corporation schools were going beyond vocational training supplements to the basic education of the public school system. They were attempting to make up for a combination of what were felt to be deficiencies in the public education system and the needs of large numbers of immigrant workers. They offered essentially an elementary school education with courses in English, citizenship, mathematics, and sciences.[1] Today the educational levels of the industrial work force are elevated far above the level of 61 years ago.

Alfred North Whitehead, in a discussion of the function of the university, called attention to the breadth of the requirements for a business education in words with a contemporary force:

> In the modern complex social organism, the adventure of life cannot be disjoined from intellectual adventure . . . ; in the complex organizations of modern business the intellectual adventure of analysis, and of imaginative reconstruction, must precede any successful reorganization. In a simpler world, business relations are simpler, being based on the immediate contact of man with man and on immediate confrontation of all relevant material circumstances. Today, business organization requires an imaginative grasp of the psychologies of populations engaged in differing modes of occupation; of populations scattered through cities, through mountains, through plains. It requires an imaginative grasp of conditions in the tropics and of conditions in temperate zones. It requires an imaginative grasp of the interlocking interests of great organizations, and of the reactions of the whole complex to any change in one of its elements. It requires an imaginative understanding of laws of political economy, not merely in the abstract, but also with the power to construe them in terms of a particular circumstance of a concrete business. It requires some knowledge of the habits of government, and of the variations of those habits under diverse conditions. It requires an imaginative vision of the binding forces of any human organization, a sympathetic vision of the limits of human nature and of the conditions which evoke loyalty of service. It requires some knowledge of the laws of health, and the laws of fatigue, and of the conditions of sustained reliability. It requires an imaginative understanding of the social effects of the conditions of factories. It requires a sufficient conception of the role of applied science in modern society. It requires the discipline of character when one can say "yes" or "no" to other men, not by reason of blind obstinacy, but with firmness derived from a conscious evaluation of relevant alternatives.[2]

This is an architecture of educational needs, of course, and not a description of curriculum, either in academic business schools or in the management-training programs of corporations. However, Whitehead's words state well the breadth of requirements of a modern corporation and the complexity of the challenge facing its management.

Corporate motivations to educate and train include at least six elements: (1) to introduce new employees or newly appointed managers to the organization, style, and objectives of that corporate community, and all managers to organizational changes; (2) to incorporate and diffuse rapid technical change, particularly that resulting from scientific and engineering innovations that are in their first embodiment of a proprietary character; (3) to sustain professional vitality, which includes both motivation and basic professional skills, to ensure personal professional growth and, importantly, career path flexibility; (4) to avoid the cost of travel and released time for training at outside institutions; (5) to exploit the increased motivation of on-the-job training which allows newly acquired skills to be immediately practiced; and (6) to fulfill legal and social responsibilities to expand employment and advancement opportunities for minorities and the disadvantaged.

Some understanding of the importance of corporate education and training in the United States today can be had by reviewing the commitment of three large corporations. In 1969, IBM engaged the services in the United States of a full-time and part-time faculty of 3,417 which in that year offered 18,588,000 student contact hours of instruction. Assuming a student in a conventional school has 15 hours of instruction in each of 32 weeks in a year, this is the equivalent of nearly 40,000 full-time students. Of the students in its education program, only 25% are not employees, they being employees of customers. Considering that IBM had about 150,000 employees in the United States in 1969, it is clear that a significant percentage of them had involvement in the company's educational program. Of late, the program has had fewer students, but each year the percentage of IBM's employees involved has remained high.

The graduate study program of the Bell Telephone Laboratories is an impressive demonstration of the corporate commitment to upgrading professional skills of scientists, mathematicians, and engineers, even those who come directly from universities. Bell Labs employs engineers, mathematicians, and physical scientists with advanced degrees, but they also employ at the bachelor's degree level. For these new technical staff members, they offer a graduate study program leading to the master's degree within one or two years, with tuition and related educational costs paid by Bell Labs. An interesting feature of this arrangement, apart from the breadth of its curriculum in applied mathematics, computer science, operations research, electrical engineering, and physical design and mechanical engineering is a rather strong incentive to successful completion of this degree program: satisfactory completion of the graduate study program is a condition of continued employment.

This program can be pursued either full-time for one year on campus or part-time for two years in association with the local university. Between these two programs, a total of 33 of the country's leading universities is involved. Not all of the curricula mentioned above are available in each of these institutions or locations, although the master's degree in electrical engineering is common to almost all of them. In addition to this program, Bell Labs also offers its 17,000 employees a rich variety of educational opportunities ranging from technician courses to specialized short courses up to selected opportunities for doctoral research. On the average, about 2,500 Bell Labs employees are participants in these programs, which are offered by approximately 100 Bell Labs instructors and perhaps 20 university instructors at any given time.

The Bell System also operates the Bell System Center for Technical Education (BSCTE) in Lisle, Illinois. Described as similar in appearance "to a small college or university with knowledgeable instructors, modern classrooms, and fully equipped laboratories plus complete living and recreational facilities," the BSCTE offered 67 different courses to approximately 8,000 students totaling roughly 18,000 student weeks of training in 1973. The center serves the training needs of the operating companies of the Bell System and covers the relevant business and applied technical skills. An interesting feature of the center is that it not only has a faculty and five deans, but also charges a tuition of about $440 per student week which defrays the full cost of operation of the center. This tuition gives some measure of the costs associated with the effectiveness-oriented educational objectives of industrial organizations.

A third example will show that the trend toward major investments by corporations in educational facilities and activities has by no means slowed down. A new Xerox International Center for Training and Management Development opened in June 1974 with a staff of 500. Built at a cost in excess of $70 million, the living-learning center, near Leesburg, Virginia, consolidates Xerox training schools formerly operating in seven locations. Emphasizing relatively short courses averaging two weeks in duration, the Xerox center is designed to host 20,000 employee-students a year. At present, the training center is devoted primarily to job-related training activities in sales and service areas, but management training and development courses will be added.

Although individual companies provide different form and emphasis to their management and executive development programs, some sense of their scope can be obtained by reviewing the program of IBM. There a manager participates in the program throughout his career, from an initial local orientation and one week at a corporate new manager's school following his first managerial appointment, to annual additional training sessions. For higher level managers, there is a variety of courses ranging in length from a day to a few weeks. Some cover such topics as leadership and organization, business ethics, financial concepts, decision-making, and policy, while more advanced ones place emphasis on understanding individual values, social relationships, and the national and international environment. For executives there are internal seminars, external programs run by the leading business schools, the Aspen Institute, and similar institutions, plus combined programs that include activities in part at the company's Advanced Management School and in part at The Brookings Institution in Washington. The faculty consists of top executives of the corporation supplemented in important ways by academic and public affairs figures—diplomats, consumer advocates, and commentators on the national and international scene.

In their most limited form, management development programs consist of indoctrination sessions in company creeds and training sessions in administrative routines. At their broadest, they provide for the participant an intellectually challenging atmosphere in which he can enlarge his understanding of the world and of himself. In brief, education in industry, like its academic counterpart, is not of uniform quality.

Education for professional and career development in industry is based to a greater degree on individual initiative and motivation. It also depends more heavily on out-of-house training at a variety of educational institutions. Generally, an individual receives reimbursement of tuition and other fees upon satisfactory completion of approved courses at accredited institutions during the employee's own time. Part-time graduate study, on company time, primarily for engineers and scientists, can often be arranged in collaboration with local graduate schools with the employer paying educational costs.

At times, however, a corporation's needs for employees with special yet quite broadly based skills requires that it provide a course of instruction that has all the appearances of a college program. Examples of such courses can be found in all three of the companies discussed. For example, at IBM technicians are trained in both chemical and electrical disciplines relevant to research testing and production problems in the manufacturing of integrated solid state electronics components. The curriculum entails 48 weeks divided into 30 class hours, plus 10 study or counseling hours per week. Mathematics ranges from remedial arithmetic to calculus and basic elements of statistics. General organic and analytical chemistry are supplemented by appropriate laboratory experience. Basic electrical circuits studies provide a background for solid state circuits and specific electrical topics such as power transmission, switching, and electronic assembly techniques. This combination of electrical and chemical studies leads to a course of integrated circuits presented as the finale of the program. In this example, emphasis is obviously given to the breadth of foundation on which the technician can build in the future. It differs from similar instruction in trade schools by the particular choice of technologies to which it is oriented, by the tie-in of laboratory experience with pertinent state-of-the-art technologies, and by the concentrated character of the program.

A much more unusual example of corporate development of educational programs is a unique agro-industrial and industrial development program operated by the Arthur D. Little Company primarily for students who are technology managers from developing countries. This nine-month study program at present engages 30 students and a faculty of 42 largely from Arthur D. Little. It is unusual inasmuch as it is certified by the Massachusetts Board of Higher Education and leads to a Master of Science degree in Administration. The program emphasizes relevance, practicality, and application, although this emphasis is built upon a strong foundation of economic and administrative theory covered in the early phase of the program. The program has been in existence for 10 years and has now over 200 graduates. It was developed by Arthur D. Little with help from several universities, because no comparable program was available in the universities. However, no conventional educational institution is directly involved in the program.

The granting of an advanced degree by a state authority for work conducted entirely within an industrial organization is perhaps unique and possibly a portent of things to come. The concept that degrees are awarded and recognized from research institutions whose primary purpose is not educational is not unique. Prior to World War II, The Brookings Institution in Washington awarded a substantial number of well-recognized doctorates. Nevertheless, the clearly entrenched tradition is that industrial or government laboratories with active on-site programs leading to advanced degrees traditionally rely on the participation of an accredited college or university to provide the basis for the award of the degree. Thus the National Bureau of Standards graduate program has resulted over many years in the award of upward of 70 Ph.D. degrees. All of these, however, were properly awarded by an accredited university with faculty of that university examining the students and sitting on the dissertation committees. Hugh Dryden was one of the early graduates of this program working through the Johns Hopkins University.

The Arthur D. Little precedent is, however, a step beyond the NBS graduate program, although its importance for American education is somewhat diminished by the fact that its students are largely foreign. Nevertheless, it suggests that the primary feature distinguishing an educational institution from an industrial one, namely the awarding of degrees, may not have the importance in the future that it assumes today, at least in vocational areas.

All of the above illustrations should suffice to convince the reader that more than training takes place in a corporation. Not that we wish to imply that corporate training programs are irrelevant to the future of higher education; quite the contrary, the increasing sophistication of not only these programs but also the techniques for producing and delivering them may have profound implications for American education which we will return to later.

It is not always possible to make a clear distinction between corporate "training" and, say, Whitehead's sense of "education," although one can imagine a scale of parameters in terms of which that distinction might be drawn. At one end of the scale, which we may regard as more typical of training, lies measurability, narrowness of subject matter, relevance to a particular time and place, well-defined range of use, and efficiency of information transfer. At the other end of the scale, more characteristic of what we mean by education, lies the exposure to contrasting assumptions and points of view, the involvement of personal intellectual initiative, less constrained range of use even to uncertainty about its specific utility, and the general impossibility of measuring on a quantitative scale the degree and quality of acquisition of insight.

Education has a cumulative characteristic when done properly, permitting the mastery of a scholarly discipline to advance in a geometric progression. Indeed scientists generally believe that the information content of science has been advancing exponentially because of this cumulative characteristic of scientific knowledge. To the extent that small units of training are independent and not cumulative, one might suspect that the benefits derived from training are more linearly related to time. But one may question whether this is an appropriate distinction to draw between education and training. Knowledge of science can be documented and structured in such a fashion that students can be readily "trained" in its applications while clearly benefiting from a cumulative education. Also, a specialized training in one kind of company product can greatly speed the training in another related product. Obviously a corporation will attempt to have training programs with as much of a geometrically cumulative characteristic as possible.

The distinction between training and education is touched upon in a perceptive review of Alvin Toffler's book, *Learning for Tomorrow,*[3] by Robert McClintock, Professor of History and Education at Columbia. McClintock points out that Troffler espouses one side of a long-running debate in Western education theory that

> . . . originated with the Greek sophists who held that educators should first anticipate the future as best they could by consulting tradition and intelligent foresight and then prepare the young for success in that anticipated future. . . . On the other side of the long debate a quite different conception of the future has given rise to a quite different aim for education. Socrates held that Protagoras did not know what virtues should be taught. . . . All was possible; nothing was certain; every plan was subject to doubt: in the face of this contingency the wise man pursued the universal, that which would have value under all conditions. . . . In pedagogical practice, this pursuit of universals has put a premium on the mastery of principles. To learn to read with vigor, to write with power, to calculate with comprehension, to judge with prudence, to do all under all possible conditions: these have been the aims of the universal education.

McClintock clearly sides with the Socratic point of view, identifying himself with a concept of education which results in the acquisition of "a combined capacity for an informed choice of goals and a comprehending use of techniques for pursuing them."

Most corporations have enough confidence (whether ill placed or not) in their ability to discern the character of the future, for which they want their employees trained, to adopt an unabashed sophist approach. But time and again a changing external environment has caught corporations ill prepared to accept change, much less to lead it. Unquestionably, a corporation needs a significant number of employees with a Socratic education in McClintock's sense, while just as certainly a corporation cannot provide its employees with such an education. If education in this sense is a challenging goal for a university—and we doubt there are any who believe otherwise—then it is certainly an unattainable goal for a present-day corporation. Too many contingencies of an immediate future press upon an employee at his work and prevent him from reflecting on broad objectives. It follows that corporations have a strong stake in the nation's academic institutions that justifies a substantial amount of philanthropic activity.

Yet a corporation also needs employees with a sophist education, as Whitehead's description of the requirements of a business education richly illustrates. Clearly, the responsibility for this other education is shared between the schools and colleges that educate people and the corporations that employ them. The dividing line between the two areas of responsibility is shifting constantly under a number of forces. As we have already indicated, one of the forces is produced by the rate of change of the technical needs of corporations. If this rate exceeds the rate at which academic institutions can or care to change their curricula, then corporations have no other alternative but to develop curricula of their own. The last twenty-five years has been a period of especially rapid change in technical needs and not accidentally a period of growth in corporate education. Education for a future that lasts a decade means that a person must be reeducated three times following his original education.

There are many instances of cooperation between a corporation and an academic institution to develop curricula to meet the corporation's needs. Such cooperation can be mutually beneficial. The corporation receives a ready-made education staff in the form of academic faculty, and the faculty receives exposure to areas which use their specialties and perhaps specialties they were not aware of. However, the risks for a corporation in such a cooperation are negligible when compared to those for an academic institution. The corporation is using the institution as a buffer for short-term fluctuations in its education needs. To the extent that the institution does not need to hire faculty or overly specialize its faculty to play that buffering role, the cooperation can be beneficial. But an institution must be protective of its independence. Reasonable inertia to change is beneficial when it is directed to that end and not to isolating the institution from trends to which it must eventually adjust.

Other subtle forces on the line dividing corporate and academic responsibility for education can be illustrated with a discussion of continuing education for a working population. The need for such education is evident. The rate of fragmentation of technical knowledge into specialties is high, as is the rate of obsolescence. The easy solution of generous early retirement to remove those whose skills are out of date from competition in the work force may be appropriate in individual circumstances, but it is philosophically unacceptable. We cannot discard intelligent and useful human beings at an ever earlier age when in fact their life span and requirements for useful activity in the retirement years are growing. As the society becomes much more oriented to the provision of services than of goods, the sophistication levels and scope of training requirements will grow. Two-thirds of the labor force in the United States are already engaged in service industries, which are the most rapidly growing segment of the economy. The growth in "knowledge workers" documented by Fritz Machlup is likely to continue.[4] Demands for technically trained repair and service people such as systems programmers and analysts are likely to continue unsatisfied. Concurrent with all these demands, society faces a demographic shrinkage that will dramatically reduce recent graduates as the source of newly required skills. After 1980, for nearly a decade the number of 18-to-21-year-olds in the U.S. population will decline, and is projected in 1990 to fall back to the number in 1970. The average age of the work force will rise substantially as a result.

It may therefore be assumed that because of these factors and because of the general trend toward full employment policies and career security, demands on institutions of all types for greatly expanded training and education of a working population will increase. Where is the appropriate environment for continuing education? Within the businesses and industries where the employee has matured to a realization that he must update himself, or within an academic institution where he must participate and compete in activities of a kind very different from those with which he is familiar? Economic factors can weigh heavily in a personal decision, for family support as well as self-support most often is necessary for the older student, not to mention the need to pay tuition. In spite of the initial problems of readjustment the academic setting may be exactly the best for a reorientation. But the working student may be forced to seek education and training with more immediate rewards since an employee is not likely to be rewarded for grades and degrees but rather for demonstrated performance.

After working-hour—or with employer cooperation, part-time working-hour—courses at an appropriate, convenient institution are a possibility for some of those with well-defined goals. For others, an educational sabbatical may be necessary, which in Germany, France, and Belgium can mean a paid sabbatical with costs shared by employer and government. But perhaps developing educational technologies will make it possible for an employer to provide another solution.

Many companies, like IBM, with rapidly evolving technical products, have large training needs closely related to specific jobs. For example, in IBM's case, sales personnel and systems engineers responsible for installing new products are given specialized classes with both engineering and administrative content. Customer engineers who are responsible for the maintenance and repair of the company's products are provided with basic and advanced courses. Programmers, both applications and systems oriented, receive continual updating because of the evolution of existing programming systems and the introduction of new ones. Customer employees who will be using new products must be trained in their use. All these training needs are subject to fluctuations related to product plans, but they are always of a substantial size and by their nature can be satisfied only by using a corporate training staff.

Characteristic of industrial training is the reduction of the course material into relatively small modules of instruction. The motives for this structuring of the material is flexibility of presentation as well as measurability of effectiveness. These motives are independent of any use of computers in the presentation or evaluation of the material and are costly to implement. For example, at the Bell System Center for Technical Education which we discussed earlier, course development requires approximately one man-year of senior professional effort to produce a single week of training, a ratio of 50:1. In a computer-based system the ratio of author preparation time to student course time may run anywhere from 20:1 to 250:1. Clearly the key factor is not so much the use of a computer as it is the structuring and documentation of the materials of instruction. Such preparation can be justified only for courses in which the content is relatively stable and the number of students relatively large.

Quantitative measures of success are much easier to devise for highly modular material in industrial training than for more conventional education. Further, one generally expects highly motivated students. Consequently, it is possible to accept an educational philosophy which emphasizes that responsibility, for failure does not lie with the student, whose motivation and learning readiness are assumed, but with the instructional staff and the teaching materials; and indeed, this is the philosophy of the Bell System Center for Technical Education. Incorporated in that Center's program are a number of elements that have often been advocated for education in general, including pilot testing of materials before the course is brought "on line," and course maintenance through evaluating in-class student performance and modifying the course to ensure relevance for the changing student position.

Cost consciousness in corporate training programs is heightened not only because instructors' salaries must be paid, but more importantly because students' salaries, and possibly their living costs, are also borne by the employer. This is the reason large course development costs can be justified when they result in shortened course length. This is also the reason a major thrust exists in companies like IBM to encourage in every way possible self-motivated, independent study. If the educational process can be made available to the student at times and places of his own choosing interstitially among other productive activities, if a highly paid instructor does not have to be present whenever learning is taking place, if the student is reinforced in his learning objectives by the attainment of skills he can quickly put to profitable use, the cost effectiveness of corporate education is substantially enhanced. It is therefore not the availability of new instructional technologies that gives rise to the thrust to the self-study approach, but rather the desire to encourage modular self-study that gives rise to computer-assisted or computer-managed instruction in its most economic form.

Within IBM, computers and computer networks are extensively used for industrial training. In some cases, computer networks are justified by a variety of non-educational applications so that the full cost of the system does not have to be attributed to its use for training. However, the dispersal of the training to branches throughout the country results in sufficient savings in travel and salaries of the trainees entirely to justify the customer engineering instruction network. This network operates from a single host computer in Sterling Forest, New York.

Experience to date indicates that a network is more efficiently used if the terminals do not serve as the primary presenter of basic information but only as sources of information or of simulations. Off-line presentation through text, audiovisual, or other devices is generally more cost effective. Clearly, educational technologies should be assembled in their most economical combination to serve the overall instructional need.

Quantitative measures of educational effectiveness per unit of time devoted to instruction are admittedly difficult to apply. However, comparative tests have been made on selected instructional modules with results that suggest that by that short-term measure, terminal-oriented instruction is as effective or perhaps a little more effective than conventional classroom instruction. But the true long-term benefits probably lie in the support the technology can give to the primary objective of self-motivated and self-paced study.

It is clear that the most important requirements for the successful introduction of computer technologies to further education are not only the capital investment for equipment and materials and instruction but also the motivational environment for the student. Self-discipline and organization are increasingly needed in the learning experience. Self-study technologies do not produce this self-discipline, they require it. Yet there is a widely held view that the generation of young people emerging into the employment stream who have grown up with extensive exposure to television from childhood (the "TV children") will have fundamentally different attitudes. It is thought that this generation is accustomed to a passive relationship to the screen, at the same time expecting a high technical quality with attention-getting devices. It may prove extremely difficult to satisfy the cost limitations on materials of instruction while maintaining sufficient quality to hold the attention and exact the intellectual commitment of the student. This is obviously a function of student motivation, which can explain why industrial training has provided the first major economic success for computer-supported education and may be followed by military training.

Academic institutions will not be so favorably influenced by cost-benefit arguments to introduce a capital-intensive technology such as self-paced terminal-oriented instruction to improve the productivity of its teaching staffs. There are indications, however, that this instructional method is well suited not only to skills-oriented training but also to the training of educationally disadvantaged students. If this experience is valid, it should surely be given a realistic opportunity for adaptation to the somewhat different requirements of public education. As the history of industrial education illustrates from the NACS in 1913 to the programs of today, corporations are not unwilling to invest substantially in on-the-job training that will permit the effective utilization of the disadvantaged, whether they be the non-English-speaking immigrants of the past or the educationally handicapped of today. Perhaps they will be the first to make extensive use of this instructional method for the education of the disadvantaged.

Much controversy surrounds the expectation that new educational technologies, first shown to be cost effective in the relatively high-cost industrial environment, will soon assist productivity in the very different environment of public education. Computer-assisted and computer-managed instruction is high on the list of new technologies that have so far failed to have a major impact on public education. Nevertheless, as we remarked earlier, we believe that these and other technologies can have profound consequences for academic institutions in the United States perhaps because they will be used by the institutions,[5] but more likely because their wide use in industry can affect the kinds of demands placed upon the institutions.

The use of computers and computer networks in industrial education and training has just begun. All indications are that the use will expand significantly under cost pressures. It is not unreasonable to predict a large number of corporate nationwide computer networks each being used in part for corporate education and training. What are the implications for American higher education of such a result and the coincidental development of industrial education staffs experienced in a range of newly evolving techniques?

Should some segment of the college and university community seek to provide a larger part of the continuing education requirements of the business and industrial community? If so, will the environment and techniques required for these activities still be applicable to the more traditional requirements for the education of recent school graduates? And if the educational community does not respond to the requirement for continuing education under circumstances that are deemed cost effective by industry, what are the consequences of the further expansion of industrially operated educational institutions, whether represented by classrooms or dispersed computer networks? One might speculate, for example, on whether the variety of approaches will have an enriching effect on our society or whether there will be a clamor for the intrusion of governmental authority concerning the internal educational objectives of private organizations.

Next we must ask, in connection with the difficult distinction between training and education and the circumstances required for the efficient prosecution of each, how much of the industrial training approach is applicable to the traditional educational scene. Now that more advanced educational technologies are beginning to be applied on a large scale, and with prospects of further substantial reductions in both communications and data processing costs, will institutional inhibitions against the introduction of these techniques into public education prevent their use even if they should prove cost effective in that environment? If so, the stage may be set for the emergence of a major profitable learning industry oriented to skills training.

Another possible implication can be illustrated by the Bell Laboratories master's degree graduate study program discussed earlier. The Laboratories establish the master's level as the minimum technical qualification for their research personnel, and yet at the same time they offer a generous program of tuition and partial salary support to on-campus students who have worked one summer at Bell Labs and who will return for full-time laboratory assignments at the completion of the one-year master's degree on campus. One may speculate, therefore, that Bell Labs has found a preselection of master's level professionals more effective than a postselection. A significant ingredient in this conclusion must be not only the larger pool of talented students available for recruitment at the bachelor's level, but also the motivational and educational quality advantages that come from the student-employee commitment, as well as the opportunity of the laboratory to work with the university to ensure that the scope of the curriculum meets the laboratory's requirements. One can imagine this precedent having its counterpart in higher level professional revitalization programs, perhaps uncoupled from the specific feature of the award of the conventional academic degree. But one can also speculate that if it became feasible for new employees to learn the content of master's level courses through self-study with computer assistance, an employer could be motivated to provide such courses in order to gain the advantages of recruiting at the bachelor's level at the same time that an employee would have a strong economic incentive to work and learn on the job. Such a development is certainly possible, but is it desirable? The answer to that question depends to a great extent upon whether one leans to the Sophist-Toffler form of education or the Socratic-McClintock form.

It is not clear that any real harm would come from any of these trends. The clear and almost present danger lies in the fact that most of our leading educational institutions are not in the position of guiding these developments, but rather are bystanders. The institutional separation of training activities from educational activities may assist in meeting the huge cost of society's learning requirements, but it may also make it even more difficult than it is already for the committed, disciplined, and managed environment of highly structured training to be affected by the skeptical attitude of the scholar and the innovative imagination of the researcher. Vocational and professional programs are not always welcomed by segments of our university community. But these programs have benefited from their scholarly environment and have kept the scholars in contact and even in conflict with those whose goal it is to apply the product of that scholarship. This contention is an important asset to the educational environment of the university. The corporate education environment is inevitably lacking in this asset, so that the industrial student of management must be made aware of it either through curriculum materials or through periods of study in an academic environment.

In this brief review, we have not attempted to cite examples, either in universities or in industry, of the most imaginative and experimental innovations in new approaches to instruction. There are many such examples, sometimes the result of collaboration between industrial and academic teams who successfully prove the feasibility of new approaches. Rather, we have attempted to emphasize that a basic economic interest in private industry is forcing a major commitment to in-house education and training as well as a utilization of resources from the academic community. This same economic interest is generating operational experience on a large scale with a variety of approaches and tools that are setting patterns quite different from those found in academic institutions. This economic interest may not be shared by academic institutions, but they will surely be affected by its consequences. If, in one way or another, our academic institutions actively participate in guiding the evolution of education in all of its settings, then these consequences can be beneficial to our society.

REFERENCES

1. Bernice M. Fisher, *Industrial Education: American Institutions* (Madison: University of Wisconsin Press, 1967), p. 110.
2. Alfred North Whitehead, *The Aims of Education* (New York: The American Library of World Literature, 1949), p. 98.
3. Robert McClintock, "Alvin Toffler and His Futurologist Friends," *The Chronicle of Higher Education Review*, March 25, 1974, p. 12.
4. Fritz Machlup, *The Production and Distribution of Knowledge in the United States* (Princeton: Princeton University Press, 1962), chapter X.
5. F. Reif, "Educational Challenges for the University," *Science*, May 1974, p. 539.

CARYL P. HASKINS

Thoughts on an Uncharted Future.

SURELY IT INVOLVES no exaggeration—indeed, it is hardly news—to reflect that the demanding questions and the elements of crisis that challenge us today over the whole vast range of educational policymaking in the nation must clearly be the most extensive, and quite possibly the most difficult, that we have ever experienced. The decisions taken and the courses charted tomorrow, over the next decade, perhaps through the end of the century, may well have an impact on American life—one might pardonably say upon the shape and character of the nation itself—at least as great as those that we shall take in any other major area of domestic policy.

The issues of goals, to say nothing of the formidable problems involved in implementing them, are of course not new. But, as we are all keenly aware, the many developments that have crowded upon us as well as the heightened social consciousness which events and an accelerating national maturity have brought to us over the last decade and a half have given them a more than usually intense urgency and at the same time a bafflingly heightened complexity. The philosophic and practical problems involved in our efforts to make education an effective force in achieving equality of opportunity have a poignancy and importance for us that, in national terms, would have been quite unfamiliar even twenty years ago. And as with all dynamic advances, this one too brings its own obverses often enough difficult and puzzling to deal with: such, for instance, as the recent demand for equality, not only of opportunity, but of *result* in education, leading down tortuous and difficult trails. We are increasingly sensitive to the complex issues of how we can maintain pluralism and diversity in our educational systems, and especially how we can guard and enhance those qualities among their graduates, as we become increasingly aware of how infinitely precious those qualities are to our national life. Yet there are also the opposing currents of opinion and concern, epitomized, for example, in the issues of how we shall maximize productivity and cost-effectiveness in the educational process, even unsure as we are of what those words truly mean—goals which at times may imply a philosophy and orientation quite different from those primarily concerned with diversity.

Then there are the major questions of how to attain the nearly universal educational opportunities that we want for our young citizenry, while at the same time realizing that in any sector of education benefit for one may mean maladjustment and disservice for another. How can we so mold our educational processes that, even within single institutions, we are able to cater effectively to a wide range of tastes and abilities and aspirations? In particular, there is always before us that most difficult of challenges: how to achieve as great an excellence in training at less as at more ambitious intellectual levels. Indeed, the evidence is all around us that excellence in the first sector requires at least as much talent and dedication as in the second, and is of extraordinary social significance.

Again, there is the continuing and ever evolving relationship between the public and the private sectors of education. What are the appropriate balancing and sharing of duties and functions between these two arenas in the enterprise that differ in so many ways? Surely the sharing of training tasks between these two modes, and indeed the very maintenance of a certain tension between them, are among our most precious assets. It would be deeply tragic if one mode were, for all intents and purposes, to replace the other, extinguishing one of the vital stimuli to the educational growth of the nation that has operated since the days of the Morrill Act.

Then there is the complex of problems centering on one of the most vital of our modern educational frontiers: the issue of learning as a continuing and lifelong process for mature men and women, with all its implications for Open Universities, for external university programs, for constant and flexible retraining and inspiration throughout the lifetime of the individual, and, implementing all this, the needed social changes in our ideas of the academic degree as accreditation versus the academic degree as social symbol.

At the opposite end of the spectrum from the widening of educational opportunity lies another issue, equally vital, apparently strongly contrasted in its goals and its sweep, yet in many ways closely related. How can we best provide, and conduct, and maintain, enduring educational opportunities of suitable scope and design, of the highest quality, and of ready accessibility to forward in the fullest possible degree the flowering of what Lord Ashby has called the "thin clear stream of intellectual excellence"—that corps of highly gifted and motivated young men and women who in their generation will carry so heavy a share of the responsibility for innovation and the maintenance of excellence—in a very real sense, for the maintenance of greatness—in the culture of their time? Together with the problems of the provision of lifelong education and, as nearly as possible, universal and relevant education, I would regard this, among all the complex of issues before us, as among the most vital for our future. I shall return to both.

Even so partial a list of the problems and the dilemmas facing education today and tomorrow, to say nothing of the vastly difficult problems of financial support which obviously must condition all else in both public and private sectors, makes perplexity and pessimism and discouragement all too easy. But, as so often elsewhere, problems can also spell consonant opportunities.

In this context, it is worth recalling one great potential opportunity, as well as obligation, offered us today, by a circumstance quite new to our experience. It is an opportunity which may bear importantly upon both the great concerns that I have especially underlined: the concern with developing the opportunities for lifelong and widespread learning to the maximum possible degree, and the concern with special training for gifted intellectual leadership, giving them an underlying commonality belied by their apparent differences. It is provided by a peculiar and novel aspect of demography

Daniel Moynihan, in a recent stimulating essay entitled " 'Peace'—Some Thoughts on the 1960's and the 1970's,"[1] has vividly summarized an aspect of the truly revolutionary last decade that today we are inclined to forget. Yet it could well have overridingly important implications for our entire educational environment perhaps through the end of this century. Moynihan points out that in the decade of the sixties we lived through a profound, and violently swift, demographic shift. It was a change primarily affecting one particular segment of the population: those on the threshold of maturity, those just passing from dependence to the first stages of independence in the society, those for whom the first critical independent life choices were at hand. The bulge was, of course, a delayed consequence of the "baby boom" of the years after World War II. In some sense it was expected. But a general impression is quite different from that brought home, later, by the actual figures. As Moynihan notes, if one considers the proportion of the total American population aged fourteen to twenty-four years for the period from 1890 to 1960, one finds little relative change. There was indeed some growth during most decades. The total number in that age group over the 70 years from 1890 to 1960 amounted to about 12.5 million persons.

But then, during the single decade of the 1960s, that figure increased by 13.2 million—an increment five times the average rate for the preceding 70 years. Small wonder, as the author emphasizes, that this gigantic effect, so little explicitly emphasized in the whirlwind of those years but acting synergistically with all the other social transformations of the time, united to produce within the vast body of young men and women a good proportion who felt that they literally formed a new unit of society, separated from their elders not only by age and cultural distance but also by necessity: a group in a very real and tragic sense isolated and alone.

Like a tidal wave, the bursting front of that phenomenon has passed over us. Some current projections estimate that the demographic growth in this subpopulation through the whole of the 1970s will be in the neighborhood of 4.3 million young men and women rather than almost 13.5 million, and there are those who predict an actual decline of 8 to 16 percent in the decade of the 1980s.

It was indeed a tidal wave, and its passing will necessitate radical readjustments in our educational structure, as we are already beginning to feel. For the teaching profession itself, at every level of education, it must have marked implications. In terms of the dynamism of our commitment to new teaching facilities, to teaching programs, and even to excellence in teaching itself, the danger of a deflation of our interest and our drive and our effort is real. It is never easy to make the transition from frenetic growth to far slower paced, far more deliberate development. The challenge may be doubly difficult for Americans, schooled for more than a century in the philosophy that growth is synonymous with progress, and that without growth progress as we have come to define it is meaningless. It is not easy for us to really appreciate a fundamental truth: that progress in the deepest and most lasting social sense is likely to be made precisely in the absence of the kind of turbulent change to which we have been conditioned, now, for a full decade and more.

So with the problems created by the passing of the crest of the wave there must indeed come unusual opportunities. For a variety of reasons, to be sure, they will not be easy to delineate and seize. But if we can succeed in detecting and embracing some of them the rewards for our society could be great indeed.

Let me probe just two of these possible opportunities. The crest of the wave has indeed passed, and our impulse is to be relieved. But we are all too likely to forget that, as with other waves, the crest does not disappear when it courses over us. It travels on, finally, if undeflected, to crash on some farther shore, scattering widely and aimlessly the burden that it bears. Perhaps we are too ready to forget about that substantial part of the legion of the fourteen-to-twenty-four-year-old sector, whirled in the currents of the sixties and most especially Vietnam, that, through one or another cause, lost its normal opportunities for higher education and now has dispersed—almost invisibly in too many cases—into the body of our citizenry. We may reasonably hope that the generations of the seventies and the eighties will have better fortune than was theirs. But they have not vanished. They are very much with us: an important element of our citizenry now in their most vital life period for the nation, one of our great potential resources.

They are mature men and women now, a part of the active work force. Yet almost certainly the educational experience of many has been far below their potential to benefit from it, and their worth, to themselves and to the nation, is less than it could be. How is the lost learning experience to be made good? It would be hard to imagine more vivid testimony to focus attention upon the opportunities—and, of course, the vast problems—involved in the provision of adequate and accessible facilities for lifelong learning for those who desire and can benefit from them: the vision of the Open University, of new and presently unconventional kinds of educational accreditation and certification, of the designing of new and special modes of university extension work, of the best use of the newer technological devices available to us such as novel modes of teaching by satellite.

Even the dimensions of this corps are at present only very generally known to us. But there is another corps that is surely equally significant, whose needs are in some sense related, and about whom we may know more. These are the men and women in the manifold technological activities of our society, the experts in multifarious technical crafts upon whose dedicated and finely honed skills of mind and hand the rest of us depend so much more than we sometimes realize. Many of these technologies, as we all know, are swift changing, with far shorter periods of radical advance than the workspan of a craftsman. The tragic cases must number many thousands where the still young laborer in an intricate and dynamic technological vineyard, at the outset soundly trained, has found himself hopelessly behind in his craft a decade later, simply because he has not been able to take the time to keep abreast of newer developments. Then his own value to the society and—most importantly—his own self-respect and self-confidence slump sharply. If he stays on his job, it is with diminished capacity and diminished regard. If, as can all too readily happen, he is dropped or pensioned early, his life becomes a social waste just when it should be at its productive peak. We have had some experience of the tremendous difference that periodic opportunities for intellectual and technical renewal can make in situations of this kind: of the tremendous "salvage value" that the society can offer through such means. Is it not time that we examined the prerequisites for providing such opportunities for lifelong learning much more intensively, and on a more extensive scale?

The human and the spiritual values of such developments are clear enough, and they are evidently overriding. But it is worth remembering that there is also a compelling imperative of a more economic kind. When youth was burgeoning in the 1960s, we became accustomed to thinking of the nation's supply of young and vital men and women as an inexhaustible resource, indeed, in less hopeful moments as an almost unmanageable surplus. It is abundantly clear that this will be far from true in the future. We have a tremendous resource borne by the tide of those years. We had better be sure that it has a chance.

And so one comes to the third corps of young men and women on whom we must place special emphasis. It is far smaller numerically, somewhat different in character and function, but socially important far beyond its numbers. It comprises that "thin, clear stream of human excellence"—the stream which produces creative writers, creative artists, creative scientists, statesmen, gifted administrators, and the rest of that high talent who must carry so disproportionate a share of the burden of the world's affairs and upon whom the world's advance so enormously depends. Surely we know little enough of the alchemy that produces such individuals. But history is unequivocal that, decade upon decade and century upon century, a smallish percentage of them do appear in every generation. It is a reasonable assumption that, at any given level of effectiveness in providing and imparting knowledge, their number is likely to be fairly constantly proportionate to the number who have access to those wellsprings. Here again the "army of the unknown" from the years of the sixties becomes vitally significant. How many potentially gifted leaders may there be among them, generally unrecognized—and, most particularly, unrecognized by themselves?

Obviously there are two major facets to this issue. The first is how to identify potentially gifted persons in these groups, once they have been exposed to fairly conventional environments of learning. It is an ancient question, never yet completely satisfactorily resolved. But the second facet is even more challenging. Once such individuals are identified, by themselves and others, their needs in their years of more advanced training will obviously be of very special kinds. What are these kinds, and how are they best to be fulfilled? Is this basically still a "conventional" task, or are special modes and special institutions required? These are tremendous and far-ranging questions, and the answers to them must vary immensely with time and with field. For the remainder of this paper I would like to consider one particular facet of them.

Modes of advanced training in the sciences and in technology may offer a paradigm of some special interest in this context. For it becomes ever clearer that in the modern world science and technology alike are capable of providing elements of a common structure of culture across the borders of peoples—not a universal structure, to be sure, in the sense of a wholly common language like the languages of Greece or Rome, but perhaps the closest approach to this that we have. As Lord Ashby has presciently pointed out, technology in general may properly be characterized as one of the most humanistically oriented activities of our time, directly contrary to a common impression. Typically, the older technologies originated as arts. It was only relatively late in their histories that they were joined by the newly arisen sciences—in essence arts themselves—which provided them with novel and powerful aids and so influenced and vitalized them that ultimately the boundaries between the two were blurred, and we are now often unsure where the one leaves off and the other begins, if indeed in many cases there is a dividing line at all.

But the old spirit of humane service that illumined the arts of healing, the arts of building—indeed, the arts of teaching themselves—from their early beginnings continues to dominate their now immensely more powerful approaches and armamentaria. So perhaps it is particularly relevant to consider some of the peculiar requirements in the preparation of the advanced scientist, whose gifts and vision over the years ahead must continue to contribute so disproportionately to both individual and to national, to both spiritual and material welfare. And it is worth recalling too, in this context, Whitehead's prophetic view, expressed many years ago, that "in the conditions of modern life the rule is absolute; the race which does not value trained intelligence is doomed. . . . Today we maintain ourselves. Tomorrow science will have moved forward yet one more step; and there will be no appeal from the judgment which will then be pronounced . . . [on the uneducated]."

One of the vital aspects to be emphasized in this area, evident though it be, is the vast contemporary importance of special opportunities for ever more advanced training. Just as the high-school graduate at the turn of the century could be regarded as rather well prepared for the general technical level of the society that he was entering, and as a bachelor's degree from a good college signified adequate preparation a quarter-century later, and the doctorate from a good university a quarter-century after that, so now it is abundantly clear that even this level of training has in general become inadequate for the most gifted young scientists planning to work along new research frontiers. In most such fields postdoctoral education has become a necessity. Furthermore, the tremendous advances of the last decades along virtually every front of science, of which we are so continually made aware, have led to deeper and more general insights in both the physical and the biological sciences than we have ever had before: to general insights that gird our comprehension of the most diverse phenomena, and the mastery of which becomes utterly necessary to enable further progress along a vast number of apparently divergent scientific paths.

There was a time when intense specialization in some closely defined scientific arena seemed the most powerful approach to understanding, and the fragmentation of knowledge which followed, with the breakdown of communication and mutual understanding that too often was its consequence, indeed seemed a regrettably high price to pay, but still a necessary one. That trend persists. Many of our more conventional institutions for scientific training are, in fact, not only adapted to it but have unfortunately become unwittingly deeply committed, in their structure and their philosophies, to its perpetuation. But in recent years the contrary approach has become dominant. It was first made evident by the appearance of the "hyphenated" fields—physical chemistry and chemical physics and biochemistry and biophysics and microbiology. This, however, was but a symptom, the superficial tip of an iceberg, betraying far deeper developments. Today it is clearer than it has ever been before that the gifted scientific student must be prepared to forge his intellectual tools from the fires of many disciplines, and perhaps, in the course of his work, to design cross-disciplines of his own. For the grand strategy of this age is to bring every resource of knowledge and ingenuity and intellect to bear upon the task of further widening and deepening understanding, of breaching new frontiers, over the whole vast range of scientific investigation.

What sorts of training, and in particular what sorts of environments for training, do these relatively new, and imperative, requirements demand? One is tempted, as always, to turn to the universities, the traditional providers of those environments; and many universities have done outstanding jobs. But they also are burdened with some handicaps. Many, for instance, took their basic forms and adopted their basic philosophies when the trend toward specialization of scientific knowledge was at its height. Like some scientific academies, they are scarred by the intellectual compartmentalization of their departments, raising barriers which on occasion can make it exceedingly difficult for the brilliant student to gain deeper and broader access to the various areas of scientific knowledge that he may later need. Again, universities, out of professional and social duty, have traditionally served as accrediting as well as educational institutions. By this token, the university necessarily focuses on the predoctoral candidate. The postdoctoral student, of course, is no longer in need of accreditation. But the emphasis here needs to be put precisely on him. And for this structural reason, among others, he may not tend to be regarded as "center-stage" in many standard training institutions. Further, it has often been observed that a doctoral degree in science ought to be regarded primarily as a license to practice for a decade, after which the licensee should return to the educational font for intellectual renewal. This is an aspect of lifelong learning which will surely become more important with time, but for which not many universities are adequately equipped at present.

It has been immensely difficult for many universities, operating under the crushing pressures of the sixties and early seventies, even to contemplate the changes of philosophy, of orientation, and of structure and function that would be needed to fit themselves for these vital roles in the context of tomorrow. And indeed the prospect is formidable to contemplate, bristling with difficulties far beyond those of mere mechanics: the human failings of rigidity, of entrenched interests, of a narrow competitiveness at both faculty and student level; the great barriers imposed by the frailty of some institutions in allowing their development and their conduct to be overly biased toward self-service in a fiercely competitive world rather than to the interests of the students and the society that they are bound to serve. But the quieter times that we may reasonably expect over the next decades may provide new opportunities for reflection and action in this arena too.

In this connection there may be much to be learned from examples offered by a relative handful of centers of teaching and research at the forefront of the scientific endeavor which, here and abroad, have provided so many remarkable leaders over the years. One factor common to them all has been their emphasis on an intimate and continuing contact between student and great teacher, in an almost apprentice-like relation. Sir Hans Krebs has recently pointed out how vital such relationships have proved historically, and what unequaled opportunities institutions fostering such relationships as a central element in the environments they create can offer to gifted young individuals at particularly formative periods in their careers, communicating the philosophies, teaching the attitudes, and molding them to the stature of their preceptors. The life of Krebs, himself a Nobel laureate, provides a remarkable example. During that critical period of development spanning his twenty-fifth to twenty-ninth years, he worked intimately as a student of Otto Warburg, collaborating on the particular investigation that brought the Nobel award to his teacher in 1931. The career of Warburg himself had followed a similar course. As a young man he was closely associated with Emil Fisher, who was awarded the Nobel prize for his work on the chemistry of sugars in 1902. Fisher, in his turn, had worked with Adolf von Bayer, who received a Nobel in 1905 for his discoveries in the chemistry of dyestuffs, in particular his synthesis of indigo. And so the chain continues, reaching back before the time of Nobel awards. For von Bayer had been a pupil of the famous Kekulé, the elucidator of the structure of benzene. Kekulé in his turn had studied with Liebig, who may fairly be said to have laid the foundations of organic chemistry. And Liebig was the intimate pupil of the famous Gay-Lussac, the pupil of Berthollet, whose work was critical in liberating the physical science of his day from the medieval notions of phlogiston. Berthollet, finally, was the pupil of the great pioneering chemist Lavoisier.

In each of these cases—and in many others that one could cite—the association of pupil with teacher came during a period of training which we would today include within the doctoral and postdoctoral periods. And it was no part-time or casual relationship. It was intense, consuming, and prolonged. Indeed, the intimacy and the constancy of the relationship between teacher and taught clearly were primary factors in its power and success. But another element of great importance was evidently the kind of environment in which the experience took place. A glimpse at the panorama of the centers of training of great scientists through two centuries demonstrates eloquently that it is in the free and flexible and rather small groups, gathered about comparatively few figures of real stature in both research and teaching, that the path breakers of the next generation have consistently developed. No less than 60 outstanding leaders, for example, were "propagated" from Liebig's laboratory through succeeding generations, more than half of whom attained Nobel laureates.

That is the historical situation. But it is equally a contemporary one. Krebs has called attention to some interesting statistics bearing on the sources of unusually distinguished scientists and scientific leaders in Great Britain over approximately the last quarter century. In the earlier part of this period, "conventional" universities clearly provided a principal source of scientific excellence. But in more recent years the lead passed to research institutes and specialized teaching and research training groups more particularly tailored to the needs, where administrative duties were characteristically lighter and less complex, and teaching was of a far more intimate and intensive kind, with a lower ratio of instructed to instructor than a conventional university could ordinarily afford. It is of interest that of 32 new Fellows of the Royal Society elected in 1967, for instance, only 13 had conducted the work critical to their selection within a "conventional" university atmosphere. In contrast, of 18 Nobel awards made in England in the seventeen years between 1950 and 1967, seven, or better than a third, came to members of the staff of the Medical Research Council, a single "unconventional" research and teaching institution which even in the latter part of that period operated with something like 5 percent of the research funds available to the conventional universities and with perhaps one-tenth the number of scientists. It would be hard to find a more dramatic example of the important place of the research-cum-training institution and the flexible center of excellence in the molding of scientific leadership of a critically important kind.

And in this context we have to remind ourselves continually that Whitehead's wisdom is not outdated, but is of the most relevant and contemporary kind. As Krebs has underlined much more recently, in our age the cultivation of excellence in scientific leadership is no academic exercise, but a fundamental source of national strength. In science, as elsewhere, it takes only relatively few outstanding leaders of the first quality to shape the course of affairs in a nation in that arena.

There are not many such centers in the United States today, and the knowledge and the facilities to establish and model and maintain them are limited to relatively few institutions. Yet this need not continue to be so. The requirements are not difficult to understand, though they are indeed both unconventional and stringent. By the very nature of their mission, such environments must be highly flexible. Not only must they be able to provide for the very different requirements of both student and teacher at different periods of career and growth. There must be the understanding and the will to shield the participant—teacher, investigator, student, or all three—during his most creative periods from the insistent external pressures that are always present, tempting the premature publicizing of work at a delicate stage of development, or the early "freezing" of ends best left flexible.

Scientific communities of this kind are not easy to maintain. They require constant protection, and constant and eloquent explanation. For, in common with other innovative and leadership elements in our society, their very nature opposes a philosophy that may seek to maximize productivity in the short run through ever more efficient deployment of men and women—the very philosophy that, in some other parts of the educational spectrum, may sometimes be a governing one.

There is a further question about such institutions, and it is fundamental. We are all aware of the marked shift in the "center of gravity" of society's demands on science which has marked the last few years and is likely to continue into the future: the increased demands for "relevance"; the properly increased demands that science link itself more closely to society's increasingly desperate needs, that it become "mission oriented" to a greater degree than in the past. It is quite likely that the era of exponential increase in the number of those preparing to devote themselves exclusively to the inner disciplines of substantive science, and training with those precise ends in view, has drawn to a permanent close. Whatever their numbers, these men and women will continue to be of the highest importance to society, and worthy of the very best. But there is another aspect. If the leadership focus is shifting, it is to a yet more demanding role: one that can be filled with real effectiveness only by men and women trained excellently to the frontiers of some substantive discipline or combination of disciplines, but at the same time much more broadly developed both in relation to the whole of science and its functions in society, and in the arena of social structures and needs themselves. This is a task that, in respect to kinds of training, is not substantially different: it is only wider, deeper, and more difficult, requiring if anything yet greater flexibility, a yet more effective surmounting of the boundaries separating disciplines. The essential outlines of the task, and its essential challenges, remain.

So one returns, at the end, to the problems and the notable rewards inherent in the wider establishment of the kinds of centers that are demanded in this context, and in the wider recognition of the philosophies of learning and of teaching and of the nature of new knowledge that they implement. We know that groups and centers of this kind can be established within the universities and also within government and industry, for there are outstandingly successful examples already operating in all three environments. Paradoxically, it is sometimes true that the most intractable of these environments can be the university itself, for the reasons earlier alluded to. Yet these problems have been brilliantly surmounted in a number of leading educational institutions of high excellence. Their example, together with that of the leading research foundations of our country—some of which have maintained consistent records of the highest distinction for seven decades—speaks volumes.

Last and surely one of the greatest complex of problems, especially today, is that of economics. So far as our present experience goes, institutions seem to require much higher ratios of teacher to neophyte than almost any other teaching environment. Here again the consequences of the spent demographic wave may be significant. Moynihan has pointed to the abrupt drop in the number of new teachers that will be required in the nation during the seventies if the present ratio of instructors to pupils is generally maintained, and of the sharply diminished need for new professors that is likely in the eighties under the same conditions. But there are going to be many teachers preparing and maturing and eager to make instruction their life's work during those decades. Among them will be many of great gifts, to whom demands of the kinds that leadership training imposes will have high appeal, and who will be amply qualified by training, by temperament, and by endowment to undertake them. That supply should have some bearing upon our capabilities with respect to teacher-pupil relationships, not only across the broad front of education, but more particularly in these areas where low ratios are of such extraordinary importance.

Finally there is a variety of related questions that insistently impose themselves in this arena of teaching and learning, as in so many others. What about the effectiveness here of instruction employing mechanical aids? What of the role of the teaching assistant? Our ideas of the answers to these and many other queries within this special milieu at present are deeply inadequate.

These are but a few of the questions that a new era poses so insistently. We have few enough replies for them. Almost the only specific guides that we can muster, in the new world that we enter, are some striking bits of historical evidence persisting from the older one. But perhaps it is proper to suspect that, even in a universe that appears to change so rapidly, there are relatively invariant elements, and these may be the very elements of deepest import for us. It still is true that a people that honors its history, and that pays attention to its details—though of course always with the most critically editing eye—may be least condemned to repeat that history from its very beginning.

REFERENCE

1. Daniel Moynihan, " 'Peace'—Some Thoughts on the 1960's and the 1970's," *The Public Interest*, no. 32 (1973), pp. 3-12.

B. T. FELD

On Legitimizing Public-Service Science in the University

Available data, such as there are, indicate that among the present generation of students, a smaller proportion is interested in careers in pure science than has been the case at any time in the last fifty years, even during the Great Depression of the 1930s. This tendency, which has been increasingly evident in the United States in the last five years, has now spread to most of Europe. Data are not available for East Europe, but if the past is any reasonable guide to the future, styles among the young in the West tend sooner or later to be picked up by Communist youth.

Certain causes have been suggested to account for this phenomenon in the United States: the decrease of job prospects in pure science, especially in the universities; the reduction of the support available to graduate students in many science departments; the desires of young people for involvement in pursuits "relevant" to human concerns, coupled with the image of pure science as being aloof from, if not hostile to, societal needs; the disillusionment of the younger generation with technology in general, and with the efficacy of technological "fixes" for dealing with the human, social, and ecological problems arising mainly from the pattern of uninhibited technological growth in the developed countries during the last century; the apparent inability of technology in the advanced countries (both capitalist and Communist, with the probable exception of the People's Republic of China) to bridge the ever-wider gap between the affluent "north" and the underdeveloped "south"; and, finally, a growing disillusionment with "rationalism" as an effective approach not only to human but also to natural phenomena (this last is, of course, in large part a consequence of the failings of technological society mentioned in the preceding).

Most of the complaints of the young based on these trends have a certain degree of legitimacy even though many of them stem from a serious lack of understanding of the differences between science and technology, if not from some confusion between cause and effect. Nor does it do much good, in the circumstances, to insist on the proposition (generally accepted as almost self-evident by my generation of scientists and technologists) that the solutions to the ills brought about by unthinking technology can come only through a more intelligent and humane use of technology; and that the technological advances needed to provide the solution to society's problems are vitally dependent on discoveries that can come only from developments in the realm of pure science (and, of course, from advances in the social sciences). Such arguments have the ring of special pleading in the ears of the young.

Unfortunately, if today's public image of science is badly tarnished, there are some valid reasons for this state of affairs: the discovery of fission led promptly to the atomic bomb, while the long-heralded blessings of atomic power seem to threaten potential disasters worse than the energy shortage for which fission is supposed to be the cure; the beauties of space research have left, as the main visible residues, vast arsenals of intercontinental rockets poised for instant annihilation of the two "superpowers"—and much of the rest of the world with them—and a sky full of "spy" satellites; the new possibilities for communications, power transmission, and so forth, foreseen with the invention of the laser, appear so far to have led only to "smart" bombs; the culmination of the Pavlovian-Freudian revolution in the psychological and behavioral sciences seems to be brainwashing, mental institutionalization of dissidents, and the more efficient selling of soap. And where, one may ask, is the promised cure for cancer? Or how does one reconcile the advertised agricultural breakthrough of the Green Revolution with today's mass starvation in Africa and Asia? Only part of the problem can be ascribed to oversell on the part of university scientists and science departments; we are guilty at least as much of mis- and non-performance as well. In any event, since it is the universities that are in the forefront of scientific research—at least in the United States—they bear a major share of the responsibility.

Almost nobody questions that, given sufficient incentive and support, public-service science and technology could be at least as effective as science and technology used for private gain or for military purposes. Furthermore, I believe it is reasonable to assume that, all else being equal, scientists would as soon or sooner devote their efforts toward goals that are manifestly socially constructive. What, then, are the obstacles?

First, let us consider the incentives: Generally speaking, science departments expect their members to do science, which is not, on the face of it, unreasonable. Of course, like many generalizations, this one is far from universally valid. It has long been recognized that as scientists grow older (and correspondingly, in most cases, their productivity falls off—pure science remains predominantly a young person's game), they can legitimately devote an increasing fraction of their time to teaching, administration, university committees, and public service. But for younger members of science departments, the standard for advancement, both in rank and in salary, remains the rate of unbroken production of scientific results, generally measured by publications in scientific journals.

Nevertheless, even young members of science departments can and do take time out to consult, serve on professional committees, or otherwise follow their personal inclinations. But such activities, even if obviously socially useful, are generally not thought of as adding to the person's professional luster and are frowned upon when they significantly cut into his or her research: as recreation, yes; as avocation, no.

To a certain extent, this prejudice against "nonprofessional" work, even if this work is of a serious research nature, has been much less evident since World War II, insofar as it relates to work on subjects deemed to involve "national security" or "defense." Participation in such activities—especially during the summers, but even to some extent in the normal academic year—has been looked upon, both by university administrators and by scientists themselves, as a legitimate form of scientific activity. One reason is to be found in the great postwar growth of university dependence on governmental support, and the perceived need to "repay" this through useful and practical services. Probably equally important, however, as a legitimizing factor, is the tradition in other fields—notably in political science and economics—where being sought out as a consultant to the government is regarded as a positive sign of professional competence and success, adding to the stature of both the individual so chosen and of his department and institution.

In this regard, it should be noted that the prejudice against outside activities has always been strongest in the "purer" sciences—mathematics and physics. Industrial research and consulting are more generally accepted as a legitimate activity for chemists, while research on medical problems is more than legitimate in the eyes of most biologists—a fact that has incidentally resulted in a growth of student enrollment in biology departments, the reverse of the trend in the physical sciences; medicine is still considered by the young as a socially useful and relevant occupation.

In recent years, another exception has come to be accepted as a legitimate diversion of scientists from research. This is teaching-for-the-sake-of-teaching (in contrast to teaching as a necessary concomitant to research). Many science departments now accept the criterion of recognition as an outstanding and imaginative teacher as equivalent to outstanding scientific research as a consideration for promotion and tenure. One result has been a tendency to separate department members, sometimes even by title, into researchers and teachers. In some cases, this separation has even gone so far as to result in the creation of new departments and divisions devoted entirely to pedagogy.

This is, in my view, a dangerous trend, detrimental both to teaching and to research. The teaching of science as a live subject demands that those who teach should also do—and this will be even more the case if, as recommended below, science departments would begin to encourage involvement of their younger members in programs of application to societal problems. Overspecialization in teaching can be as deadly and as dulling as overspecialization in some small, arcane branch of scientific research.

The élitist idea that applied science is either dull or unworthy of the efforts of pure scientists is a recent development that is as false as it is harmful. Equally nonsensical is the notion that scientific productivity demands constant and uninterrupted application. Einstein produced his theories of special relativity and Brownian motion while working in the Swiss Patent Office. Even after achieving his professorship in Berlin, he found the time for and derived pleasure from collaborating with Szilard in the invention of an electromagnetic pump for circulating refrigerant gases—a bit of socially relevant applied science whose main purpose was to eliminate the leakage of noxious gases through the moving parts of ordinary refrigerator pumps. The history of physics, from Archimedes to Fermi, contains many more such examples.

But even if taking time out for constructive applied research and teaching were to become generally accepted as the equivalent of pure research in the evaluation of a young scientist's accomplishments—and the creation of the proper climate of opinion among scientists and university administrators is a prerequisite to the achievement of this goal—this still solves only half the problem. The other half involves the creation of an appropriate organizational structure in the university, together with the provision of the necessary financial support.

Since most socially useful applied research these days is interdisciplinary in character, the universities must develop techniques for the creation of appropriate interdepartmental projects and laboratories as needed and, equally important, for their dissolution when their specific tasks are completed. Sources of funding must be developed, which are not exclusively governmental in origin, so as to ensure the necessary independence and stability. Young scientists should be able to turn to such projects in their own universities, rather than being obliged to seek them outside, for the summer earnings that have become the standard means of making university salaries competitive with those offered in industrial and governmental laboratories.

The changes of emphasis and structure required to effectuate the introduction of socially relevant science into present-day university science departments would, in my view, be beneficial not only to the universities, but to pure science as well. Aside from its direct impact on the solution of pressing social problems, such research introduced into the university would lead to the kind of diversity which stimulates good science, and it would discourage the overspecialization that tends toward dullness. It would do away with much of the competitive "rat-race" character that has lately favored the single-minded plodder. And, most important, it would begin to restore the image of intellectual excitement and fun, coupled with the feeling of involvement in a humane and socially beneficial enterprise, which will again attract into science the brightest and most original minds of this and future generations.

HERMAN FESHBACH

Graduate Education and Federal Support of Research

I

The last decade has witnessed a sharp change in the philosophy underlying the federal support of research. This change has important implications not only for university research programs but also for graduate education. Although the discussion which follows will focus on the basic sciences, its conclusions clearly have a broader applicability.

By and large, there is increasingly more interest and more support for programs which have immediate goals of practical importance than for those which can be described as basic and directed toward uncovering new facts and new insights. One can always point to many historical examples demonstrating that such basic studies have been in due course remarkably effective. Characteristically it is usually not possible to demonstrate the direct impact of today's basic research on today's needs.

Of course the early support for basic studies was set in a framework of national goals. The researches in nuclear science as authorized by the McMahon Act were coupled with the programs for the development of nuclear power and nuclear weapons. Similarly the Department of Defense could relate their support of the basic sciences and mathematics, as administered eventually by all three branches of the armed services, to the development of the nuclear submarine, to the development of communications systems for a wide variety of reasons ranging from radar systems for the detection of incoming missiles to the control of various weapons. However—and this is the central issue—there was no insistence that all individual basic research projects contribute in a clearcut and direct way to the "hardware" and to the specific data needed for the development of that "hardware." Rather it was felt that progress in our understanding of nature, in our understanding of systems, and, for example, progress in the expansion of the capabilities and exploitation of computers would provide the intellectual capital which could be drawn upon for these ends. A cadre of experts would be produced who would know of the latest discoveries both here and abroad as well as the most advanced techniques, and who would be able to respond quickly to national needs. These opinions were not held universally. Sometimes they were not even explicitly formulated. Certainly details of policy differed from agency to agency. Be that as it may, the overall effect was to support basic studies and to develop intellectual capital as contained in forefront knowledge, technical capability, and highly effective personnel.

It is now commonly recognized that science and technology will have an essential role in the resolution of many of the urgent national and international problems involving energy, the environment, and the quality of urban life including housing and mass transportation. However, it is not so clearly understood that many aspects of these problems cannot be treated simply by the allocation of large funds for the achievement of immediate perceived ends. There are many examples in a wide variety of fields where large sums have been wasted because of the absence of the basic knowledge which is needed before expenditures can be directed effectively. Unhappily one sees this error about to be or being repeated. The basic studies required for the foundation upon which practical solutions are based are not being encouraged. Triggered by the Mansfield Amendment, the Department of Defense has essentially eliminated all but mission-oriented research. The National Science Foundation has greatly increased the funding allocated to the applied sciences and energy-related research. On the other hand, it has eliminated postdoctoral fellowships and has greatly reduced graduate fellowships. In contrast to these fellowships, which were not directed toward any special practical problem, fellowships have recently been established which are completely tied to specific solutions of the energy crisis. They are available to people who are engaged in research on the extraction of oil from shale and so on. Examples of this kind from many differing fields can be multiplied.

Of course, one should attack urgent problems with the tools one has at hand. But it should not be forgotten that we have inherited these tools from basic researches carried out by our "scientific ancestors." For the future health of our civilization it is necessary to continue to develop new understanding of natural and social forces. This point is eloquently made by H. G. B. Casimir of N. V. Philips Bloeilandenfabrieken:

> I have heard statements that the role of academic research in innovation is slight. It is about the most blatant piece of nonsense it has been my fortune to stumble upon.
>
> Certainly, one might speculate idly whether transistors might have been discovered by people who had not been trained in and had not contributed to wave mechanics or the theory of electrons in solids. It so happened that inventors of transistors were versed in and contributed to the quantum theory of solids.
>
> One might ask whether basic circuits in computers might have been found by people who wanted to build computers. As it happens, they were discovered in the thirties by physicists dealing with the counting of nuclear particles because they were interested in nuclear physics.
>
> One might ask whether there would be nuclear power because people wanted new power sources or whether the urge to have new power would have led to the discovery of the nucleus. Perhaps—only it didn't happen that way, and there were the Curies and Rutherford and Fermi and a few others.
>
> One might ask whether an electronic industry [would have] existed without the previous discovery of electrons by people like Thomson and H. A. Lorentz. Again, it didn't happen that way.
>
> One might ask even whether induction coils in motor cars might have been made in enterprises which wanted to make motor transport and whether then they would have stumbled on the laws of induction. But the laws of induction had been found by Faraday many decades before that.
>
> Or whether, in an urge to provide better communication, one might have found electromagnetic waves. They weren't found that way. They were found by Hertz, who emphasized the beauty of physics and who based his work on the theoretical considerations of Maxwell. I think there is hardly any example of twentieth-century innovation which is not indebted in this way to basic scientific thought.

II

What will be the impact upon universities and upon university education of such an emphasis on "mission-oriented" research? In the present context the task of the university is to increase our intellectual capital. It does this by transmitting to our students the understanding which has been developed in the past, by developing the students' intellectual skills so that this understanding can be exploited, and by expanding both our knowledge and skills through research.

A significant part of graduate education and research in physics is supported by various agencies of the federal government, including especially the National Science Foundation, the Atomic Energy Commission, the National Space Administration, and the Department of Defense. An increased prejudice toward mission-oriented research by these agencies is amplified by the history of basic research funding, which has decreased by the order of 30 percent in "real dollars" since the mid-sixties. To this must be added the decrease in the flexibility of the universities because of inflation and the general economic climate, their increased community responsibilities, and other societal demands. These problems are exacerbated by the rapid expansion in faculty and facilities in the early sixties. Among the consequences are reduced opportunities for university employment so that the industrial sector becomes of greater importance in this respect. There is increased pressure to expand the applied side of the curricula and to reduce the emphasis on a Ph.D. degree by replacing it with a master's degree or by removing the thesis requirement.

To these first-order effects, one should add the more subtle second-order effects. The pattern of support will influence not only the research programs, but can also affect the choice of faculty as well as the curriculum, particularly in the graduate school. Faculty with more certain research support will be more likely to be chosen. Students, with important exceptions, will be more likely to attend those courses and choose those researches which will prepare them for careers with apparently good employment opportunities. This sensitivity of graduate education to the pattern of research support makes the choice of fields to be funded by the supporting agencies a matter of vital importance. It would also be too easy by an unwise selection to lose the breadth which is one of the hallmarks of a good graduate program. The determination of what mix is best is not a task with an easy or unique solution. But one may question whether short-range national needs provide the answer. Long-range goals are much more appropriate and will lead to a more balanced program and particularly will have an important component of the basic studies. Short-range goals fluctuate rapidly in priority and perceived need. Long-range goals can provide stability and continuity, which are both essential for basic research and for graduate education.

III

There is no intent in this essay to dispute the need for mission-oriented research. These needs are in fact all too easily perceived. Rather we wish to emphasize the less readily understood importance of basic studies, with its necessarily postponed rewards, for long-range national goals, for the accumulation of intellectual capital which will be needed for the resolution of these problems as well as of the unknown problems of the future, and for a balanced program of graduate and undergraduate education. The indications that these factors are not being given adequate recognition in present-day federal policy is a cause for concern.

H. GUYFORD STEVER

Education, Research, and the Self-Determination of Academic Institutions

THAT HIGHER EDUCATION and its institutions, along with just about everything else, are "in for a change" has become a fashionable cliché. It is accompanied by suggestions for federal action to promote change and, in about equal proportions, by admonitions that government intervention distorts the development and warps the fabric of higher education and its institutions.

Fundamentally, I believe that a university or college should decide for itself what it is trying to become and, having done this, should seek public and private support for its own agenda. Needless to say, different universities and colleges are likely to make different decisions, and a healthy diversity may result. This diversity is not in itself a primary end; what is primary are the independence and initiative of the universities and colleges. But independence is never total, and we must recognize the presence of some relatively universal constraints.

It is my purpose here to discuss one particular constraint which—interacting with decisions made by the unversities and colleges—will soon confront the federal government with some new policy questions. Concisely put: Our institutions of higher learning will not be evolving in the coming 20 years—as they have in the past 30—under the stimulus and with the help of continuous rapid growth. At least that is the most plausible interpretation of contemporary demography and social history. I will not enlarge upon the point since it has already received a great deal of discussion.[1] There is general agreement that probably the most troublesome effect will be a very low rate of faculty turnover and consequent failure to recruit new young faculty in significant numbers.

Growth of educational institutions over the past three decades has proceeded in two distinguishable directions and has been swept along by two separate streams of motivation. We have seen explosive growth both of undergraduate education and of graduate education coupled to research. But while these functions are performed by a single set of institutions—the universities and colleges—the motives and driving power behind the expansion of the different functions have come from quite different quarters.

The stimulus for expansion of undergraduate education was primarily demographic and socioeconomic—rapid growth of the college-age population compounded with equally rapid democratization of higher education. Once higher education was widely perceived as indispensable to socioeconomic upward mobility of the individual, the public demanded and supported the vigorous expansion of undergraduate college education. This was effected mainly through private channels and state and municipal government, with the additional impetus in the beginning of such federal programs as the GI Bill. Today, nearly twice as large a fraction of our young people in their mid-twenties has benefited from four or more years of college education as had enjoyed the same advantage 30 years ago—and the mid-twenties age cohort is more than 60 percent larger than it was then.

Expansion of research and graduate education during this same period was perceived as indispensable to the health, prestige, and security of the nation as a whole, and for that reason received the support of the federal government. The extent and consequences of this support are too well known to require detailed comment here. In sum, academic institutions increased both the fraction of their own effort devoted to research and the weight of that research contribution in the overall national picture. Our universities thus came to play a prominent role not only in analysis, criticism, and interpretation of what goes on in society but also in developing its initiatives and creative processes. Academic institutions, to be sure, have always been an important spawning ground for new ideas and concepts, but the past 30 years have seen this role made more direct and explicit than ever before. Some commentators have suggested that the independence and objectivity of the universities were lessened as a result.

Though the politics and rhetoric of these two simultaneous trends—growth of undergraduate education and expansion of research and graduate education—were not fundamentally linked, both developments tended to expand the academic institutions and their staffs and to raise the expectations of all concerned. Federal research programs increased the amount of work to be done at universities, and academic payrolls were bolstered accordingly. But even when the funds were derived from the federal government, the academic positions filled by the additional faculty members were, more often than not, rationalized in terms of increased undergraduate enrollments. Thus, payrolls and organization charts derived reinforcement from different quarters. And, indeed, the new faculty shouldered part of the burden of teaching the undergraduate students. Thus, the overall capacity of the universities has been greatly expanded in two directions simultaneously—but using more or less the same people and academic positions.

This was fortuitous. There is no fundamental historical reason why these two kinds of growth must occur simultaneously, and indeed in the future they may not. The expansion of undergraduate education seems destined for both demographic and sociological reasons to slow down considerably, and that is what recent figures confirm. Of course, at the same time there is much discussion of possible changes in the style and content of undergraduate education.

The future of research, one suspects, is somewhat less predictable than that of undergraduate education. Even without foreseeing details, however, I can say there is no reason to suppose that changes in the quantity and nature of federally sponsored research will accurately parallel changes either in the scale of undergraduate education or in the institutional development strategies independently adopted by universities and colleges. Indeed, there is no reason why they should; we ought not to enslave either activity to the other.

Our institutions of higher learning will find it easier to maintain their historic roles as independent seekers after new knowledge and critics of society if they pursue independent strategies of institutional evolution independently arrived at. If universities elect to do that, the federal agencies may well have to resort to other performers for particular kinds of sponsored research and analysis, or in some cases may have to extend the practice of creating new performing institutions ad hoc. But those are problems for the government— not for academic institutions—and we will deal with them as they arise. It would, however, be a setback both to society and to the universities if the universities could not manage to stay in the federally sponsored research picture in a strong way. Both government and universities, I believe, should continue to work to that end.

REFERENCE

1. See, for example, Wayne R. Gruner, "Why There Is a Job Shortage," *Physics Today*, vol. 23, no. 6 (June 1970), pp. 21–26; Dael Wolfle and Charles V. Kidd, "The Future Market for Ph.D.'s," *Science*, vol. 171, no. 3999 (August 27, 1971), pp. 784–793.

ROBERT J. GLASER

A Note on the "University Troubles" and Their Impact on the Medical Schools

EVERYONE HAS HAD a bad dream, and many of us have had more than one. One of the favorable aspects about such dreams is that they pass rapidly from consciousness, and often are recalled, if at all, with difficulty and then only in fragmentary fashion. But as I look back on the past ten years, to the so-called university troubles, my immediate reaction is akin to that which I would expect on awakening from a bad dream. The only difference—and it is a significant one—is that unlike the situation that obtains in the case of most bad dreams, the memory of the period of "university troubles" persists in my mind. Particularly do I remember the period from 1968 to 1970, for the obvious reason that I was then very much in the middle of the "troubles" on a major university campus. Before 1968, at least at the university of which I speak, the problems had not yet reached their fullest expression, and after 1970 I embarked on a different kind of career and departed from the main line of fire.

Now, as I write this note on a lovely afternoon, with the warm sun streaming through my study window, and nothing but a green lawn, flowers, and trees within eye range, my recollection of the physical and emotional trauma of 1968-70 seems more distant. The impression of serenity is to a degree reinforced in a number of ways: by comments I hear from colleagues here and elsewhere; by what I read in the press and in other publications; and, indeed, by my own limited observations garnered in doing some teaching as a member of the volunteer clinical faculty of the same university in which I served in the late sixties.

The gist of what people are saying is that students are now less interested in activism; rather, they prefer to study and they have aspirations more like those of their predecessors of earlier decades. Such reports notwithstanding, I doubt that activism is dead on the nation's campuses. Admittedly these days it usually seems to take a William Shockley to provoke a perceptible disturbance; I cannot help but remark that given some of the current political provocations, I am rather surprised that today's students are as calm as they are. I am not sorry that they are; I am in fact relieved that they seem no longer to be given to "trashing" and other such expressions of discontent. I fervently hope the violence and destruction of the late sixties will not return. It seems likely that most students have decided to work for change within the constraints of the system, and I am sure they are wise if indeed my surmise is correct. In the long run, they stand to achieve more in the way of constructive change.[1]

But enough of philosophizing and reminiscing. In retrospect, what were the effects of the turmoil of the period? What were the contributing factors? Is the university (and particularly its component parts such as the medical school) better equipped now than it was then to cope with turmoil of the same sort should it reappear?

My view of the situation and my observations, whatever their merit, are obviously based on my own academic experience, which was gained almost entirely in medical schools. Accordingly, my comments will focus primarily on the medical school area.

Altogether, if I include my years as an undergraduate, I spent thirty-five consecutive years as a member of a university community. I received my first appointment as a junior faculty member in 1945, and in all the ensuing years until 1970 I was a full-time medical school faculty member. For the last thirteen I was in administrative posts, chiefly as a dean and vice president for medical affairs.

For only five of those years was I in a medical school *geographically* an integral part of the parent university. Those particular five years, however, coincided with the period of the "university troubles"—from 1965 to 1970. I should note that briefly—for a few months of that period—I served as acting president of the university. I use the adverb "briefly" advisedly, for my tenure was mercifully short; nonetheless, it was adequate to enable me to sample firsthand the perils of that office. I therefore want to emphasize that my experience caused me to develop great respect and admiration for those who were and are willing and able to accept the burden on an ongoing basis. That I prefer a less exposed professional post does not lessen that respect and admiration. If anything, it enhances it.

As I was given my first faculty appointment in the late forties, I remember the medical school (and the university, for that matter) as a relatively compact institution wherein academic life was decidedly uncomplicated and distinctly pleasant. We taught, we did research, some of us were part-time administrators, but the enterprise was simple—at least in terms of what was to come. Even though funding for biomedical science had begun to increase, it was still limited; the scale of the overall endeavor was by today's standards modest. Perhaps time dulls one's recollections of unpleasantness and casts a rosy glow on what one does recall; nonetheless I remember the late forties and fifties as happy days in which a fine *esprit* existed within the institution, when one knew one's colleagues and one's students, and when "big-time operators" were few and far between. I never heard my colleagues speak of "the administration" in a pejorative way. Indeed, I am not sure I even heard the word "administration" used and certainly I never heard it used in the context of "they" (the administration) versus "we" (the faculty).

In the late fifties I had the privilege of becoming—perhaps at too young an age and too early in my career—dean of a medical school in a state university that was aspiring to greater things. The medical school was small, poorly financed, and ill equipped physically. But a small group of faculty members—young, strong, able, and with unity of purpose—decided to build a venture of quality, a resolve endorsed and supported by an equally vigorous and courageous young president only newly arrived on the scene. Obstacles of all sorts stood in the way—many of them erected by the small but vocal and powerful segments of organized medicine that traditionally oppose change. To "emerging" medical school faculties, town-gown battles are old hat—an almost built-in concomitant of the development of a school. But the point I wish to make is that in that period of the mid- and late fifties, the internal environment of the school was stable and devotion to the overall goal of the institution was paramount. These factors were of inestimable significance. I am not naïve enough to suggest that there were no dissidents or malcontents. But, by and large, the faculty was still small enough and closely enough knit to stand together, to work out effective operating principles, and thus to achieve what even in retrospect must be viewed as impressive progress.

My discussions with friends and colleagues across the country about my own experiences during this period have validated my impression that this atmosphere was common in the medical schools and in most of their parent universities. In the sixties, however, things changed as the funding of higher institutions of learning, and more particularly of the research portions of their biomedical and natural sciences programs, grew rapidly. The size of faculties and of physical plants increased enormously, and the balance between teaching and research became distorted. Sad to relate, funding for research was not paralleled by funding for education—or by funding for other areas of scholarship, notably the humanities.

As a result, the internal environment of our medical schools—and to a significant degree, of our universities as a whole—changed, and not for the better. Gradually, but inexorably, the devotion of many faculty members to the overall enterprise fell behind their concern for their own individual endeavors. As the scale of programs increased, the *esprit* decreased. It became commonplace for one not to know many fellow faculty members, especially the younger ones, whose numbers multiplied rapidly; and many members of the faculty, more and more involved in research, saw less and less of students.

The burgeoning federal programs sponsored by the National Institutes of Health (NIH) necessitated more and more study sections and councils and more site visits; increasing numbers of faculty members, especially from the medical schools, spent progressively more time away from their parent institutions. The advent of jet travel also had a seductive effect in that one could rationalize more travel because getting there took much less time.

That is not to say that the growth of institutions and the increase in travel were *all* bad. New knowledge accumulated rapidly, leading in turn to new opportunities in basic science and in clinical medicine. There followed new learned societies and new journals, and these in turn captured the time and interest of academicians.

Many medical schools were able to expand significantly to attract new faculty and to establish new programs. Many of them were transformed and in the process acquired creditable reputations for quality. In retrospect, however, it is apparent that almost every institution set for itself the same goals: in general, this meant "being like Harvard," or Hopkins, or Yale.

I cannot fault the quest for excellence, but in some instances the talent was not available, even though the money was. Programs of less than high quality were started, and, in some cases, the schools in which they were established are now "stuck" with them. But as the Congress, thanks in large measure to Senator Lester Hill and Representative John Fogarty, was generous on a magnificent scale, nobody seemed to worry much. No one asked whether it made sense for all the medical schools to follow a single pattern of growth and development. No one worried about the possibility that the bubble might burst.

That is—no one worried till the last part of the sixties, when the pinch came. As more and more money was funneled into the war in Vietnam, fewer dollars were available for other programs, and biomedical research was not exempt. That the Vietnam war was unpopular and increasingly considered unjustified made the diversion of funds an even more bitter pill for the academic community as well as for large segments of society. The question was asked with greater frequency as to why all the research had not eradicated more disease. The cycle of plenty ended rather abruptly. And in many medical schools—and obviously in their parent universities—a feeling of impending doom, or at least the realization that distinctly stringent times were at hand, began to pervade the heretofore happy halls of academe. Some faculty members in the biomedical departments were reluctant to accept the evidence that the period of affluence was at an end. Yet just as the grasshoppers learn at summer's end that life has its unpleasant side, so did the medical faculties inevitably have to recognize the onset of hard times.

Financial hard times per se might have been tolerated by the medical schools, but they were compounded by other major difficulties. In effect, the bottom dropped out completely. There was an increasing demand from the community for more medical service. The lack of adequate medical service was attributed, on the one hand, to disinterest on the part of academic physicians in the ordinary diseases of man and, on the other, to the lack of an adequate number of physicians, which in turn was attributed to unwillingness on the part of medical school faculties to expand class size. Then, too, the long-standing disproportionate underrepresentation of minority students finally attracted attention and led to the initiation of long overdue remedial measures, but these measures added further financial burdens on the already hard-pressed schools. In time, the successes of the space program led more and more people to ask why it was that we could put a man on the moon, but could not devise a rational health-care system for the American people, a query which indirectly reflected no glory on the university medical centers.

It is not difficult to see why, when a relatively small group of students began to raise hell on the campuses, the medical schools as a group were no better prepared to deal with the upheaval than were the rest of their parent institutions. A number of medical schools, being geographically separated from the main university campuses, did escape some of the extreme turmoil and violence, and not all schools were subjected to the same degree of disruption. The process seemed to hit the so-called leading establishments first and hardest. The ability of the administration and faculty in many schools to work together and to maintain some semblance of order was seriously impaired because of the transformation of the schools by the great growth and the changes attendant to that growth. The result was not a happy one.

The administration was often suspect. Confidence in the dean and in the faculty's executive committee decreased or essentially disappeared, to be followed by the creation of new forms of governance. As a manifestation of the increase in participatory democracy on campus, more and more faculty and student committees were established. Initially some of these may have made important contributions. But as time passed, more and more faculty energy was dissipated in frustrating, interminable meetings, yielding far more heat than light. Those most interested in research and teaching began to drift out of the governance bodies, leaving them increasingly the domain of the "guardhouse lawyers."

How have many of the changes that were wrought in the past five to ten years in educational structure and in educational programs stood the test of time? Has, for example, the substitution of pass/fail or of pass/no record grading systems been an improvement over what they replaced? Was scholarly elitism so bad? How have the educational experiments fared? Was the move to totally flexible curricula a wise one? Is it not true that more and more medical students, left to their own devices, follow quite a conventional program?

Is academic life as fulfilling as it seemed to be—at least to some of us—in the forties and fifties? The medical schools continue to see a rapid turnover in deans—small wonder, as the posts entail greater and greater responsibility with proportionately less and less authority. In 1969 I last calculated the half-life of the medical school dean at two years,[2] and my impression is that the figure is still at about that level or perhaps even lower. And the turnover of department chairmen seems to be accelerating in a similar fashion—a comment on the burdens of the offices. The day of the deanship or chairmanship being a lifetime post is clearly gone.

Problems of compensation occupy increasing attention in many medical schools. Whether the strict full-time system can survive is open to question. The subject of tenure is a lively one in many quarters. No one can argue with the principle that the scholar must be guaranteed the right of free inquiry and the right to present his findings, whether they be popular or unpopular. But does tenure imply financial security? How does the medical school (or university) handle the case of the tenured professor who decides he no longer wants to teach the courses for which he was appointed or wishes to work in a field not hitherto part of the university's program? How does one ensure that new young faculty members can be appointed when funds are limited and all funded posts are held by tenured faculty? Although the foregoing problems can by no means be attributed to the turmoil of the sixties, they nonetheless were rendered more troublesome as a result of the displacements of that period.

To attempt to evaluate the changes that have affected the medical schools in the past ten years is difficult at best. As the Chinese historian said when asked about the significance of the French Revolution, "It is too soon to tell." Change is inevitable, and medical schools and universities are not—and should not be—exempt. But there are varieties of change, and at least some of the changes of the past decade were hardly orderly. Nor have they, in my view, resulted in an institutional structure that is better able to cope with turmoil than it was in 1964, except that it is hard to believe that something was not learned. Only time will provide us with the answer.

REFERENCES

1. I must take note that shortly after these comments were written, mounting student protests and several sit-ins took place, appropriately enough on the Berkeley campus. Though they were nonviolent, short-lived, and mild in comparison to those of the late 1960's, their occurrence bears witness to the fact that serenity is not necessarily to be depended on.

2. Robert J. Glaser, "The Medical Deanship: Its Half-Life and Hard Times," *Journal of Medical Education*, vol. 44 (1969), pp. 1115-1126.

HOWARD H. HIATT

The Need for University Involvement in Medical Education

LONG BEFORE RECEIVING the M.D. degree, every medical student is expected not only to know that penicillin is the drug of choice for streptococcal infection, but also to understand how the antibiotic kills bacteria. Only rarely, however, is the student acquainted with the historical fact that, in the hundred and fifty years before the first antibiotic was discovered, deaths of English children from streptococcal infection fell from 2,500 per million to fewer than 25 per million.

Medical school education insures familiarity with the anatomy of the coronary vessels and the physiology of blood flow. All physicians are therefore able to appreciate the technical aspects of coronary artery bypass graft surgery. On the other hand, few acquire the sophistication to evaluate published data describing the effectiveness of the operation.

The methodology for detecting the mongoloid state in an unborn fetus is as routine for many medical students as is the identification of the physical characteristics of a mongoloid child. But how many medical students have seriously studied the legal and ethical aspects of amniocentesis and abortion, the community facilities for the care of mongoloid children, or the economic impact and other effects these children have on their families and on society?

Examples abound to illustrate how relatively deficient the medical student's grounding is in the social sciences, compared to the demanding regimen set for him in biologic science, which constitutes the core of the first half of the medical curriculum. At the same time, sophistication in the social sciences is more and more recognized as requisite to an enlightened approach to the health problems of the individual patient as well as to those of population groups. Because physicians have found themselves charged with responsibility for both the medical care of individuals and the health of society, inadequate exposure to the social sciences is particularly felt.

The introduction of the natural sciences into American medical education, which occurred largely in response to the Flexner report on medical education early in this century, set the stage for transforming medicine from an almost exclusively empirical practice to a discipline heavily based in the sciences and scientific processes. Knowledge of the biological sciences is now universally accepted as intrinsic to medical education and as essential to understanding disease and treatment of individual patients.

While much of the physician's activity remains empirical, our understanding of the pathophysiology of disease and, consequently, our clinical capabilities continue to improve. The partnership of medicine with biology and chemistry, particularly since World War II, has paid rich dividends in medical research, which have in turn been translated into medical education and clinical practice. This reliance on the biological sciences is responsible for the medical student's familiarity with the mode of action of antibiotics, with the intricacies of blood flow through the coronary arteries, and with the chromosomal patterns of various abnormalities referred to in the introductory examples.

There has been, however, almost no success (and little effort) in introducing the physician-in-training to history, statistics, decision analysis, ethics, law, economics, sociology, and other disciplines that abut directly on the practice of medicine. As a result, most physicians at graduation know too little of the effects of ill health on the community in which they will practice, the influence of social change on health, the extraordinary economic benefits of preventive vis-à-vis curative medicine, methods for evaluating health practices, the legal and ethical aspects of medical practice, or the nature of our own and others' systems for delivering medical care. Nor are they equipped to consider in enlightened fashion the hard trade-off questions that must be addressed as society attempts to meet multiple needs with inevitably limited resources. The cost of this ignorance to society is great, especially when the physician is asked to assume responsibilities for many critical tasks for which he has not been educated. For example, he is often charged with such complex challenges as participating in the management of health-care institutions, planning the distribution of health-care resources, and adjudicating highly sensitive ethical questions that arise daily in the practice of medicine.

To aid in rectifying this situation, society has begun to turn to specialists in other professional areas such as management, law, public policy, ethics, and economics, who might themselves play major roles in health. But however severe the gaps in social science education for medical students, even more striking are the limited opportunities for exposure to the health sciences for students in other professional schools and for undergraduates. The resulting underavailability to the health area of qualified people from "nonhealth" disciplines only compounds the burden on the physician and the problems for society.

Solutions to these problems, in my view, require broadening the educational experience of the physician, bringing into the health fields appropriately trained professionals from other disciplines, and raising society's level of sophistication in health matters. These objectives are closely linked, and all three are necessary. Major emphasis in this paper, however, will be given to the first.

Causes of the Problem

No small part of our predicament might be attributed to the widespread regard of "health" as being more or less synonymous with "medicine." Despite—or perhaps because of—the increased currency of such concepts as "health maintenance," "preventive medicine," "community medicine," and "health insurance," there is a general failure to perceive and to appreciate that medical care itself is only one of many determinants of the health of individuals and society.

The distinction might be better understood and more profitably heeded if there were a greater awareness of the history of improvements in the health of mankind. For example, a recognition of the profound health benefits that seemingly resulted from improved nutrition in Britain during the eighteenth and nineteenth centuries should direct increased attention to how patterns of food consumption affect the health of contemporary society. There is good reason to believe that reducing the food intake of Western peoples would help prevent or delay coronary heart disease, although physicians can do little with available methods of treatment to alleviate the disease once it strikes. While we are not sure what impact the combined efforts of physicians, agronomists, economists, and other highly skilled professionals might have on the related epidemics of starvation and overpopulation in large parts of the world, we do know that almost none of their consequences can be repaired by even the most sophisticated medical methods.

Also contributing to the dilemma is our inadequate knowledge of and conflicting attitude toward the true nature of the principal health problems of contemporary society. Many get far less attention than they deserve—for example, birth defects, the care of the elderly, the mentally ill, and the mentally subnormal, as well as the medical consequences of such behavioral problems as alcoholism and drug addiction. Other problems are addressed with more—and more expensive, but not necessarily more effective—technology, rather than with increased emphasis on prevention. These include coronary heart disease, many forms of cancer, and occupational respiratory disease.

Certainly among the most deleterious consequences of confusing medicine and health is the narrowness of medical education. That most medical schools pay little or no attention to history and to quantitative social science has had major harmful effects. The first would provide perspective; the second, hard data to balance the growing reliance on technology, especially technology pursued without adequate attention to the basic question of whether the goals are realistic or even worthy. We have seen the acceptance of unproved methods, often on a wide scale, at great loss in economic terms and in human suffering.

Take, for example, the widespread adoption of certain procedures, such as gastric freezing for peptic ulcer, and internal mammary artery implantation into the heart for coronary artery disease. Both procedures were abandoned as useless within a few years. Will we one day cite as additional examples the almost ubiquitous existence of coronary care units in our hospitals without adequate evidence concerning their benefits, or the flourishing of psychoanalysis as a therapeutic approach at a time when, however useful it may be for research purposes and in some unique situations, its effectiveness as a treatment of wide choice remains to be demonstrated?

We accept procedures on our own persons on the basis of evidence that is often clearly inadequate. Inappropriate reliance on technology, drugs, and surgery increasingly results in the sequestration of financial resources that might better be spent for other purposes. Even more important, the time of personnel given over to such aspects of medical treatment is often at the expense of the caring functions of the physician, the nurse, and other members of the medical team.

Because clinical education for medical students is generally carried out in teaching hospitals, and because we rely upon teaching hospitals to deal with medical problems that are complex, are frequently degenerative in nature, and cannot be managed outside the hospital, the process is self-perpetuating. Our best students (and our major research efforts) increasingly focus on the treatment of problems for which we can do little. Correspondingly, such common problems as those of the aged, the mentally and emotionally ill, and the alcoholic are not often obvious to the medical student during his training, and hence receive little attention, even though these are among the disorders he will frequently face in later practice Finally, since the focus of medical education generally is on the care of individuals, the approach to the health problems of society is neglected. Clearly, university curricula must be altered to correct this deficiency, however difficult that may be.

Another deleterious educational effect of assuming that health equals medicine is the neglect of health topics in the curricula of other professions. A law student concerned with the problems of occupational health might be able to do far more to prevent many kinds of lung disease and cancer than can be cured or significantly alleviated by his medical colleagues. Students of policy sciences and of management could be effective in the planning and use of scarce medical resources. Statisticians could help greatly in the evaluation of health practices. All of these people working together with physicians could far more productively address many of the complex issues facing society than can the physician working alone.

The effects of this clearly inappropriate equating of health with medicine are also observed in undergraduate education in at least two ways. First, there is the prevailing view that medical school is *the* path into the health fields. Even among those with an interest in health but no desire to practice medicine, there is little appreciation of the potential orientation toward health possible in such careers as management, public policy, law, economics, and applied mathematics. Where such awareness does exist, these other approaches are often advanced as less desirable and regarded as less prestigious fall-back options for those many able people unsuccessful in their efforts to get into medical school. Second, the failure to distinguish between medicine and health may contribute in part to the deficiency of human biology in the curricula of most colleges. Even the ablest undergraduate in many of our best universities has little opportunity to acquire knowledge concerning the determinants of health, the function of the human body, the operation of the health-care system around him, and the psychological, sociological, economic, and political factors bearing on the relationship between human biology and social organization.

A Proposal

In seeking ways to broaden medical education within the university, we can learn from a retrospective glance at the changes that followed the Flexner report over sixty years ago. When the incorporation of biological sciences into medical education was urged, one solution almost universally adopted was the creation within the medical school of a group of new departments. As a result, the basic biological sciences were established as essential components of medical education, and they were integrated into medical practice and medical research. However brilliantly this action may have resolved the problem of primary concern to Flexner, the creation within medical schools of new departments of biological sciences apart from the rest of the university promoted the isolation of medical education from general university education. Not perceived as a serious problem at the time, it can now be seen to have contributed not only to deficiencies in the education of medical students but also to the separation of students in other programs from health education. (Another consequence that was not and could not have been foreseen is the duplication of resources in universities. This creates not only serious economic problems, but intellectual ones as well.)

In some universities schools of public health were established, in large measure to provide postgraduate education for physicians concerned with the health of population groups. That this experiment has not, in the long run, been as successful as it should be is also attributable to a great extent to the separation of these schools from the medical schools and other parts of the university.

Thus, installing new departments in medical schools to encompass the missing disciplines—history, ethics, statistics, decision theory, economics, law, and others—would clearly not be desirable. Such an approach not only would widen the gulf between the medical school and the university, but also would not be likely to attract first-rate scholars. Despite notable exceptions, historians, economists, and other social scientists want access on a continuing basis to colleagues in their own fields. Those who come to teach in professional schools on a full-time basis often sacrifice their desirable availability to a broader range of students.

Therefore, such institutional arrangements as university-wide centers and joint academic appointments must be employed to encourage interdisciplinary teaching and research programs. The growing interest in health throughout and outside the university makes this a propitious time to foster such joint efforts. (Arrangements of this kind, admittedly, are not without serious problems. Upward mobility for faculty and divided loyalties are but two difficulties that must be anticipated.)

University-wide involvement in health programs would bring considerable potential benefits to medical education. A few examples of the elements highly desirable or even essential for all physicians, but now generally lacking in their education, have been set forth. Additionally, with the increasing complexity of medicine, tracks of specialization will become more and more necessary. In the biomedical research area this is well recognized; many medical schools offer M.D.-Ph.D. programs generally directed at students interested in careers oriented toward biomedical research and teaching.

Also urgently needed is the development of a group of people sophisticated in medicine, on the one hand, and in management, the policy sciences, economics, or a variety of other social sciences, on the other. The education of such people will undoubtedly promote the building of new interdisciplinary bridges, leading to further benefits not unlike those that grew out of past joint training programs in medicine and biology or chemistry.

These remarks are not intended to suggest that the problems posed by health can now be readily dealt with by available knowledge from other disciplines. But problems arising in medicine and health generally form challenges to these disciplines as unique and interesting as any others they face. For example, it has long been recognized that the economics of medical care is not that of the conventional marketplace; need and demand, the free market, the unique role of the provider all make medical economics a specialized and interesting field of research, as well as education and service. This phenomenon applies as well to many other fields. Second, as pointed out earlier, many health problems of today will not be solved by medicine, but will require behavior change on the part of the individual and society. How can such change be effected? Since the experimental evidence clearly suggests that cigarette-smoking, to choose one important example, cannot be overcome by purely rational processes, should we resort to provocation of anxiety and fear, to artificial rewards, and to other techniques of propaganda? How does one promote behavior change that is in the interests of the individual? What are the hazards? Surely this is an interesting and important area of research—one with which the physician must now cope on a daily basis without adequate knowledge.

This discussion has focused primarily on the need to broaden the educational experience of the medical student. Equally urgent is the creation or extension of educational programs in health for other professionals and for undergraduates. Clearly, responsibility for the health of society must be shared among people from many disciplines. Opportunities for professionals in management, law, public policy, economics, and other fields to be exposed to health topics could result in the education of the spectrum of people required to do justice to the complex questions of societal health needs. Among the many dividends that would be derived from such an arrangement would be a narrowing of the responsibilities of physicians involved in caring for individual patients—a greater opportunity to devote themselves to the doctor's critical, but neglected, caring function.

Such new institutional arrangements might also result in greater attention being paid to education of undergraduates in human biology and other aspects of health. Too few universities offer undergraduates the scholarly, preprofessional counterparts of health education, such as courses in human population genetics, ethical values in biology and medicine, the history of developments in health and medicine, or the economics of health-care systems in several cultures, including our own. Such courses would enrich the curriculum, permitting an appreciation of the intellectual background for a host of contemporary health questions. (Performance in such courses might even prove to be as useful in selecting potential physicians as today's almost universal discriminant, organic chemistry.) Further, this kind of education could provide a more realistic basis for career choice in the health area than that presently available to undergraduates and often to their advisers. The goals of such an effort would not, of course, be to move professional education into the undergraduate curriculum. But it is important to introduce college students—those interested in health careers and at least equally urgently those who are not—to the substantive questions in the health area.

Finally, a university-wide health program could provide a framework for opportunities in continuing education. The rapid changes in the health area, as in other fields, necessitate the constant updating of health professionals, particularly since so large a fraction were themselves narrowly trained. A multidisciplinary group doing research and teaching in the many health spheres could serve society well by extending its educational responsibilities to undergraduates, to new professionals in several fields, to health professionals in society, and ultimately to society itself. For just as it is society that derives the final benefits, it is society that finally sets priorities for the use of its resources. If this proposal is to be carried forward, we shall need to engender among society a level of sophistication that will permit expectations to bear a fair relationship to possible outcomes.

In summary, the present role of the physician as *the* central figure in the health arena is in neither his interest nor that of society. It reflects a misreading of history, of the present nature of health problems, and of medical capabilities. The problem is perpetuated by the narrow scope of present-day medical education and the paucity of opportunities in health education for students outside medical schools. Involvement of wide sectors of the university in the education of the physician would help equip him for his rightful role as *a* central figure in the health area. In addition, it would promote the preparation of the many other kinds of professionals who are urgently required to deal with contemporary health problems. Finally, it could help greatly to elevate the sophistication in health of all of society, a goal that must be achieved if we are to deal realistically with the complex questions that confront us.

PHILIP M. HAUSER

Political Actionism in the University

OBSERVERS OF THE contemporary scene are noting with increasing frequency the contrast between the relative political apathy and the calm of the students on university campuses today and the alienation, turbulence, disruption, and violence manifest on the nation's campuses in the latter part of the sixties. In the relative peace that envelops our universities at the present time, apart from serious administrative concerns about balancing budgets, maintaining enrollments, and competing for prize students, it is in order to reflect upon the maelstrom of the sixties and the doldrums of the seventies within the framework of the appropriate role of the university on the political front.

First of all, it is necessary to consider, separately, the four elements which comprise the university, an institution which is far from being a monolithic entity. In order of legalistic authority to exercise power these elements are the trustees or regents, the university administration, the faculty, and the students. In addition, of course, there is an exogenous element varying in influence and importance, the alumni. Moreover, universities, whether public or private, are themselves elements in a political community—local, state, and national. The public university, of course, is more subject than the private to both direct and indirect political control by state officials and legislatures, although both may be recipients of public funds, and both are, therefore, subject to pressures generated by the flow of funds or its cessation.

Let us immediately rule out consideration of the political role of trustees and university administrators who, in general, because they are subject to legalistic and informal constraints, if not painful experience, do not assume political stances in the name of the university. Let us also ignore the role of alumni even though in a number of circumstances they can and do bring pressures, including income-flow pressures, to bear on universities for political reasons. Let us focus, rather, on faculty and on students, the heart and soul of the university, and the elements which have the numbers and power to generate turmoil or to maintain peace on the campus.

The Faculty

Consideration of the role of university faculty in respect to political actionism must begin, and in my judgment, can also well end, with Max Weber's classical essay on "Science as a Vocation," originally given as an address at Munich University in 1918.[1] What Weber has to say about science in relation to politics can with adequate justification be extended to the entire university faculty, to professors in the humanities and in the professional schools as well as in the physical, biological, and social sciences.

In brief, Weber holds that "politics is out of place in the lecture room." He rests his case on two foundations: one, if I may paraphrase, is the fact that science as an endeavor can produce only existential and instrumental judgments, not value judgments; and two, that the professor in the classroom has, in effect, a captive audience—students, if not in the continental tradition of obeisance, are at a disadvantage in knowledge, experience, and maturity and cannot adequately cope with the professor's advocacy of his own value judgments. These considerations lead Weber to write: "When speaking in a political meeting about democracy, one does not hide one's personal standpoint; indeed to come out clearly and take a stand is one's damned duty. The words one uses in such a meeting are not means of scientific analysis but means of canvassing votes and winning over others. . . . It would be an outrage, however, to use words in this fashion in a lecture or in a lecture room." In short, it is Weber's view that it is the task of faculty members to illuminate rather than to exhort, to analyze rather than to prescribe, to delineate problem areas rather than to confront them.

The relation of the role of science in the production of value judgments requires some elaboration. Science, of course, has as its major goals the achievement of predictability and the explanation of a delineated set of phenomena, physical, biological, or social. By the rules of the game of science and its methods, it can produce existential and instrumental judgments but not value judgments—that is, science can describe what is observed, relate the outcome of experiments which reveal causal relationships, and simulate experimental methods with the use of models and statistics in an effort to gain insight into causal relationships when the experimental method cannot be employed, as in the realm of the social. But science has no unique means whereby it can determine the good or bad, the beautiful or ugly, the symphonic or cacophonic, and so forth. Science cannot determine whether the Vietnam war was a desirable or undesirable effort to preserve freedom or to extend imperialism. Value judgments may draw upon a fund of knowledge produced by science, but they are not the product of any scientific process or procedure, as such, and they are necessarily dependent upon the values contained in a given culture or arbitrarily selected and used as criteria in reaching the judgments.

It has generally been accepted, especially since the trying ordeal of McCarthyism, that to assume "guilt by association" is an unfair and vicious practice. It is as yet to be as fully realized that what may be termed "authority by association"—the acceptance of value judgments uttered by prestigious persons such as professors—can be just as harmful a practice. For no matter how eminent or distinguished his accomplishments in his own field, the professor's value judgments are not and cannot be based on the logic and methods of science, and they are not entitled to the label "based on science."

To those in academia, this point may perhaps be more readily grasped when one points out that the original Henry Ford's success and prominence as an industrialist did not necessarily add to the validity or truth of his observations on foreign affairs. It is just as true to observe that Einstein's remarkable scientific achievements provided no sound basis for accepting his views on social and economic matters.

It is a moot question that cannot appropriately be elaborated upon here as to whether guilt by association or authority by association is the more potentially harmful to society. In my judgment, both are dangerous and are to be eschewed. Ironically, the professor who seeks to capitalize on his accomplishments in his own field in proclaiming value judgments violates a fundamental principle of science itself—namely, that authority is no substitute for empirically verified findings.

Since the faculty member is usually a teacher as well as a researcher, he has a special relationship with and a crucial obligation to his students. As Weber states: "One can only demand of the teacher that he have the intellectual integrity to see that it is one thing to state facts, to determine mathematical or logical relations or the internal structure of cultural values, while it is another thing to answer questions of the *value* of culture and its individual contents and the question of how one should act in the cultural community and in political associations."

In brief, then, the faculty member, both as a researcher and teacher, by reason of the nature and limitations of science and his obligation to his students should, in his role as faculty member and teacher, be a political eunuch.

But this does not mean that the faculty member as a citizen need be a political eunuch nor does it mean that he may not use his specialized knowledge in the world of practical affairs, including politics, in which value judgments must necessarily be expressed and implemented. The human being, as Shakespeare has observed, plays many roles. The faculty member may also be a husband, father, a tennis player, a Boy Scout troop leader, a citizen, and a consultant. In any and all of these capacities he not only may, but must exercise value judgments which may include political judgments.

As a citizen, particularly, the professor is free to engage in any political activity he wishes within, of course, the bounds of legal behavior. Even these bounds may be transcended, however, at the risk of such sanctions as may apply to civil disobedience affecting not only his status in the community, but also in the university.

It is hardly necessary to note that in exercising his political rights the professor's value judgments should not carry the imprimatur of science or of his university. Unfortunately, however, the widespread practice of accepting authority by association actually leads to the placing of weight on a professor's value judgments that they actually do not deserve. It is to be hoped, although it is not necessarily the case, depending on his field, that the faculty member possesses more facts than does the average citizen as the basis for making his value judgments. But this does not necessarily make such judgments better or worse.

The faculty member has, again depending on his field, other opportunities to make and implement value judgments. The faculty member, for example, may be in a position to use his specialized knowledge in a practical way for problem solution—physical, biological, or social. If he is in the humanities or the professional schools, he may serve as a performer, creative artisan, or consultant. In such a capacity the faculty member, not as a faculty member but in another role, may within the framework of his university commitments apply scientific, humanistic, or professional knowledge to problems in the real world—that is, he may serve as an "engineer." The application of the knowledge of the physical sciences takes the various forms of conventional engineering—mechanical, electrical, electronic, chemical, and so on. Similarly, the application of biomedical knowledge is the work of biomedical engineers—physicians and surgeons. Yet to be as widely recognized is the application of social-science knowledge to the solution of social problems through social engineering.

The role of engineering is older and more firmly established in the physical and biomedical fields than it is in the social realm. In consequence, there is generally sharper division of labor between the scientist and the engineer in the physical and biological sciences than there is in the social sciences. As a result, the social scientist faculty member is more frequently than his physical and biological science colleagues called upon to play an engineering role.

There is nothing incompatible with such a role and the role of the social scientist as long as the person wears his different hats with awareness of the difference and with skill in differentiating his respective roles. Thus, the economist can be a good scientist and also give advice to government or business on economic policy The sociologist may be a good scientist and also give advice in the treatment of delinquency and crime. The political scientist may be a good scientist and also give counsel on political campaigning to a would-be elective official. What is important for the scientist and the general public to know is that in making and giving a value judgment in his own field of specialization, as in politics in general, the faculty member is acting not as a scientist, but as an engineer or as a citizen, and that his value judgments in either role are not the product of the methods of science.

There is still another way in which the faculty member as scientist or as a member of the humanities or the professional schools may act in terms of his value judgments. The faculty member is, of course, free to select the areas in which he conducts his research and focuses his attention. The economist much concerned about international trade problems can select international trade as his major area of research. The sociologist-demographer concerned about population problems can make demography his special field for research activities, and so on. The faculty member can, in this manner, also relate to the solution of problems with which he is concerned even if he does not assume an actionist posture in respect to them. Of course, if the faculty member is deeply and emotionally involved in the problem, it is possible that he may not be in a position to conduct objective research. On the other hand, his emotional involvement, if controlled, and good training should make control possible, may provide desirable motivation and increase input into the research enterprise.

Finally, there is a professional realm in which the faculty member does have the right to, and should, exercise value judgments including political value judgments. A faculty member, as a member of a professional association, appropriately has concern about all matters that may affect his ability freely to conduct research and to teach. One can go further and say that the faculty member in his role as a member of a profession not only has the right to express value judgments, but the obligation to make and to implement such judgments as may be necessary to assure academic freedom in all its dimensions.

In summary then, the role of the faculty member in politics may be clearly stated. Generally, he has no basis superior to that of other persons for making political judgments because there is nothing in the method of science that produces value judgments. Moreover, he may have a special obligation to avoid his value judgments receiving more attention and acceptance than they merit. This is especially true in his relationships to his students. His obligation to his students is to educate, not indoctrinate. On the other hand, the faculty member as a citizen or as a consultant or engineer is free to express and implement such value judgments as he pleases. In doing so, however, he is not in a position to speak either for his discipline or his university.

Students

Students, of course, make up the largest number of persons on a university campus. In the turbulent campus experiences of the late sixties, it was the students, although sometimes stimulated and led by faculty members, who exploded into disruptive and violent behavior.

University students, it may be assumed, although this was certainly challenged by the militants in the sixties, if by nothing other than their youth are less knowledgeable than faculty members and come to universities to acquire an education, general or vocational. They have come to acquire knowledge with the guidance of faculty members who are not only older, more knowledgeable, and, it is to be hoped, wiser, and with access to the educational resources of the university—classrooms, libraries, laboratories, computers, audiovisual equipment, and so forth.

What should the political role of the student be?

Paralleling earlier remarks, it may be said that the student as a citizen, of course, has the same privileges as any other citizen for political action. His political judgments, however, carry no special stamp of merit by reason of his student status. On the contrary, not only the faculty but the community at large is apt to judge student political judgment as inherently relatively immature. Although there is an inverse relationship between age and education in our society, we have not yet accepted the fact that the young are wiser than their elders, including their faculty elders.

In short, although students of adult political age certainly have the freedom as citizens to make political judgments and participate in political action, they, as their elders, must be prepared, if their political actions involve lawbreaking, to accept the consequences of civil disobedience as administered by law-enforcement agencies. Furthermore, they must also be prepared to take the consequences of university administrative sanctions for behavior which disrupts ongoing university activity and, especially, for behavior which interferes with free and open campus communication.

Finally, it should be observed that such political judgments as students may make have no special aura or merit by reason of their university affiliation. They certainly cannot speak for the university, nor can they expect that their judgments will possess the same aura of authority too often erroneously attributed to the value judgments of faculty members.

Reflections on Campus Disruption and Violence[2]

Campus unrest, disruption, and violence during the late sixties was initiated, in the main, by the members of the "new left." The participants in this "movement" were primarily graduate and undergraduate students and, in smaller number, younger faculty members including teaching assistants. It is relevant to observe that most of the members of the movement were marginal scientists or faculty members in the sense that they were still working for degrees or occupied nontenured positions on faculties. They had yet to demonstrate that they could win their places as journeyman members of university faculties or full-fledged members of their chosen professions.

Those of us who had an opportunity for close contact with members of the "new left" movement were, I think, uniformly impressed with the fact that they were in the main intelligent people, very much concerned about the evils of society and "establishment" leadership. They were convinced our society was a sick society that must be destroyed and remade. They were especially sensitive to the horrors of the Vietnam episode. They were repelled by the inequities and iniquities of racism, the blight of poverty, the deficiencies of government, the evil of machine politics, the limited options in the selection of political leaders. They were disillusioned by the difference between what their elders professed and what they did. They were certainly extraordinarily conscientious citizens with a deep sense of obligation to correct the evils they perceived and with a major commitment to do so. They can, I think, be fairly described as the closest manifestation in contemporary American life to a sectarian religious movement characterized by a sense of moral fervor and absolute righteousness.

This description of the members of the new left is not intended to be pejorative. It is not possible lightly to dismiss and condemn as undesirable a movement that addresses itself to the elimination of the acute and chronic evils with which our society is admittedly afflicted. On the contrary, we should extol the perception, the concern, the dedication, the commitment, and even the fervor of those who would solve the sore problems which beset us. On the other hand, it is in order to rebel against the righteousness and absolutism which characterized the movement and to evaluate its effectiveness.

With the improved vision of hindsight it has become clear to most that universities were utterly unprepared in policy and means to cope with disruption and violence; and that making universities the target of attack was a blind and stupid ploy. Universities' pathetic reactions to disruption and violence, in general, tended to exacerbate both; and the selection of universities as targets as well as the methods employed turned out to be counter-productive. Militant student and faculty leaders, who in their heyday were able to marshal large numbers of actionist participants, are now barely able to muster a handful of followers. This was manifest in a recent episode at the University of Chicago. A small SDS group did manage to disrupt an announced lecture by a controversial visitor who had been singled out as a target by reason of what some perceived as his "racist" views. A group of eleven persons did manage to disrupt the meeting and prevent delivery of the lecture at the announced time and place. It turned out, however, that of the eleven persons who created the disturbance and prevented the lecture, only two were members of the University of Chicago's SDS, and the others were importees from other campuses and places. The University, in keeping with its pre-announced policy, did subject its own two students to disciplinary action; and, significantly, the student government suspended SDS campus privileges for a stipulated period.

What are the lessons to be learned from the campus unrest and violence of the sixties? First, in keeping with the views presented above of appropriate political roles for faculty and students, it is important that the university be regarded by all its elements as essentially an apolitical institution. There must be consensus achieved to the effect that the university in contemporary society has a unique nonpolitical mission to perform.

President Edward H. Levi of the University of Chicago in a recent address on *The Integrity of the Universities*[3] reaches back to Henry Newman's discussion on the ideal of the university, given in 1852 as rector-elect of the new Catholic University of Dublin. Levi states: "Newman argued eloquently that the purpose of the university was not to achieve social or political objectives, not to inculcate religion or to provide training for material advancement, but rather to teach general knowledge—the acquisition of which would be an acquired illumination, a personal possession, an inward endowment." President Levi also notes:

> Newman himself, having taken this position, was careful to point out persuasively that the rigorous paths he was advocating would bring major benefits of value to the individual and to societies. Citizens would be better able to see things as they are, to discard what was irrelevant; the national taste would be elevated; the conditions of private life improved. But these were attendant results, although he was willing to call them the practical aims of education dependent upon the goals he envisaged.

Accepting this statement as embodying the essential elements of the mission of a university, it should be recognized that free and open communications of all points of view is an essential precondition for achieving the mission of a university. The university, if not the only such institution, must be preserved as an institution in which free and open communication is maintained.

The university, therefore, must be prepared to undertake all necessary actions, including the use of overwhelming, immediate, and superior force, to maintain free and open communication. The experience of the sixties taught us that the university with wisdom and will could, under some conditions, utilize enough of its own muscle to discipline disrupters and violators of the essential right of free and open discussion. Before resorting to use of law-enforcement agencies, the university should attempt the use of its own disciplinary tools to deal with both unruly students and faculty members. Suspension and expulsion of students can be employed, if necessary, to maintain a free and open intellectual society. Similarly, dismissal of faculty members can be utilized as a tool by universities. This is easier accomplished for nontenured than for tenured faculty, but it can be utilized for both. There is nothing in the tenure contract which gives the professor the right to disrupt university activities. Needless to say, employment of such sanctions by universities should be undertaken only as a last resort, when necessary to maintain the university as an open, free, intellectual community and, of course, only with due process. From the experience which has been gained, universities should be in a much better position to defend themselves from disruption and violence of the kinds they experienced in the sixties.

It is possible that universities will again be faced with disruption and violence. A recent Gallup poll reports that although "the mood on college campuses is calmer than in the turbulent sixties, there is little evidence to suggest that the current college scene is as serene as it was in the 1950's."[4] It reports that the chief concerns of the students of today differ from those of the sixties. Concern over political morality has replaced the anger over the Vietnam war. A large proportion of students, nearly 40 percent, "continue to believe that violence sometimes is justified to bring about a change in society." The Gallup report concludes that "this finding suggests that the student activism of the sixties could again be ignited."

On the other hand, there is evidence that students have learned from the experience of the sixties and are aware of the counter-productive character of disruptive and violent actionism. There is evidence that there has been an increase in the proportion of students involved in professions related to improving social conditions, including teaching and social work. These are among the indications that suggest students are not necessarily more unmindful than their counterparts in the sixties of the need for social change. But, having learned the futility of disruptive and violent actionism, they seem better prepared to effect change within the system. Furthermore, they have probably become increasingly aware that the university is the wrong target on which to focus to effect social change. Although the university remains an inviting target because of its relative physical helplessness, there is increasing awareness that the destruction of universities would probably retard rather than accelerate social change.

Concluding Observations

Both members of the faculty and students, in their capacity as faculty and students, should, as the university itself, be apolitical. The activities of both faculty and students should be addressed to achievement of the mission of the university—adding to knowledge, transmitting and receiving additions to knowledge, and training personnel equipped to continue these functions. The *sine qua non* for the continued performance of the university's mission is free and open intellectual communication.

The individual faculty member must learn to distinguish among the various roles he plays. He must recognize his university role as essentially apolitical in nature. This does not mean that he does not possess other opportunities for political action. He has every right to engage in political action as a citizen or in roles as a consultant or engineer.

The faculty member must learn to recognize that his political value judgments are not derived from the methodology of science and do not merit the authority and weight others may ascribe to them by reason of his eminence or accomplishments in his own field. He should probably realize that he has a special obligation to avoid contributing to the practice of "authority by association" just as he is undoubtedly prepared to prevent the practice of ascribing "guilt by association." The faculty member must recognize that he cannot speak for his discipline or for his university in the expression of value judgments, including political value judgments. He can only speak for himself in a nonacademic role.

The student, similarly, in his capacity as a student, must remain essentially apolitical. Because of his relative immaturity and inexperience, his value judgments, including political value judgments, do not carry the same danger of being regarded as authoritative as does the faculty member's judgment. The student, as the faculty member, cannot speak for the discipline with which he may be identified or for his university. He does, of course, have the right to engage in such political activity as he may wish as a citizen.

Finally, both the faculty member and the student must recognize that there is a price to pay for political activism. Both may find that especially excessive political activism can be indulged in only at the expense of excellence in their academic roles. Furthermore, both, if they engage in political actionism which involves breaking of laws or the disruption of free and open communication on the campus, must be prepared to pay the penalties imposed either by law-enforcement agencies or by the university itself.

REFERENCES

1. Max Weber, "Science as a Vocation," *From Max Weber: Essays in Sociology*, eds. H. H. Gerth and C. Wright Mills (New York: Oxford University Press, 1946), pp. 129-156.
2. See also Philip M. Hauser, "On Actionism in the Craft of Sociology," *Sociological Inquiry*, 39 (Spring 1969), pp. 139-147.
3. Edward H. Levi, *The Integrity of Universities* (Chicago: The University of Chicago), a talk given on February 12, 1974, pp. 1-8.
4. *Chicago Sun Times*, Sunday, May 12, 1974.

S. E. LURIA AND ZELLA LURIA

The Soluble and the Insoluble or Are Two Cultures Better than One?

In memory of Jacob Bronowski.

C. P. SNOW, a sharp observer of society as well as of science, coined the expression "The Two Cultures" to suggest an intellectual segregation between the two moieties of the intellectual enterprise, the humanistic and the scientific. The theme of the present paper is that the two cultures do exist and are in fact separate, although they are not mutually exclusive or incomprehensible. On the contrary, a clear definition of the contents and methodology of each of the two cultures can make them mutually supportive and enhance our understanding and teaching of both. We shall also advance the proposition that conflict between the two cultures stems from their competition for *Lebensraum* in the middle area of the cultural enterprise, the so-called social sciences, and that only when each of the two cultures has accepted the limitations of its role and learned to respect the role of the other can they usefully cooperate in the social domain.

Let us examine a case history. At a prestigious technical university, undergraduates, including engineers, have long had a requirement for eight one-semester courses in the humanities and related subjects, including a rigorous and demanding sequence of three literature courses. These requirements have been relaxed in recent years, mainly by allowing substitutions of some social science courses with humanistic implications, such as psychology. A new proposal is then presented and approved by the appropriate committees to substitute for the original requirement a new one for eight courses in a "distribution area" including humanities, philosophy, psychology, social sciences, art appreciation, and so on. This is debated and approved, with the sole provision that at least three out of the eight courses must be from a list of subjects with "humanistic orientation," a list to be promulgated by committee. (What would one call a college course without humanistic orientation? antihumanistic? or dehumanistic? or bestialistic?)

The significant aspect of this case history is not in the above facts but in the arguments presented in the debate. Specifically, each group attempted to present its case in the terms of the other group, the social scientists vaunting the humanistic contribution of social science teaching, the humanists making the strange claim that humanities are the key way to understand the functioning of man in society. Only at one point did the debate touch—so delicately that only the experts noticed—upon the central issue. Strangely enough, this was when a philosopher and a humanist argued whether symbolic logic—a mathematical course, a favorite for mathematically-minded students—would or would not be acceptable as a course with humanistic orientation. It was here, rather than in some conflict between physics and literature or between sociology and poetry, that the two cultures confronted themselves. This was significant because it highlighted the fact that the confrontation was not primarily between traditional disciplines but between methodologies, and it was such because of the intrinsic dichotomy in subject matters. Symbolic logic deals with mathematics; literature deals with the human predicament. And they use fundamentally different tools.

The sciences (among which mathematics and symbolic logic belong) as well as parts of the social sciences are problem-solving disciplines. They assume that the problems they deal with have rational solutions. They aim at converting each problem into a set of propositions, whether mathematically formulated or not, whose solutions represent a more complete or more effectively usable picture of the subject matter. The classical model for the culture of science is physics and the classical model for the application of the methods of science to social problems is economics. Sociology, social anthropology, and political science also attempt to follow the same path by metricizing variables other than the strictly economic ones, such as opinion shifts, family patterns, and so on.

In the rush to quantification, however, something may go wrong. On the one hand, quantification may be applied where it has no business to be; on the other hand, emphasis on quantification may lead to discarding essential but nonquantifiable elements.

Take history, for example, traditionally the backbone of the humanities without which all other branches of the humanities would make little sense. Can history be fully quantified? A group of scholars who call themselves cliometricians has recently emerged. In an important and widely publicized book[1] two cliometricians, Fogel and Engermann, have recently analyzed American slavery as an economic institution. With some surprise these authors have come to the conclusion that, contrary to traditional beliefs, slavery was a relatively benevolent institution, at least as compared to the most lurid descriptions of it, and a rather efficient economic structure, compared to the condition of free industrial workers of the same times. (The latter conclusion cannot have come as a great surprise to readers acquainted with classical Marxist writings.[2]) No claim is made by the cliometricians, of course, that slavery was a humane institution as well as an economically adequate one. The important point, however, is that the category of humaneness has something intrinsically different from economic categories: it does not lend itself to numerical analyses. One may succeed, perhaps, in estimating the efficiency of the death penalty in inhibiting crime. But how can one measure what the death penalty does to the morality of a nation?

Here we hit the nub of the problem and the focus of our thesis. There are categories—freedom, dignity, guilt, joy, sorrow—that are not quantifiable and which we call humane because they are uniquely human: expressions of consciousness turning inwardly upon itself. The profit of the slaveowner and the income of the slave tell us little about what slavery does to the humanity of slave and slaveowner. Cliometrics may be excellent economics; but is that all there is to history?

Where the usefulness of quantification ends, where problem-solving meets its boundary, there the domain of the humanities begins. If science is the art of the soluble (the felicitous title of a book by Medawar[3]), the humanities might well be called the art of the insoluble. Take, for example, dignity. Can we speak of an animal's dignity? Certainly: as we see a proud giraffe towering in a landscape; or a Siamese cat resting, statuesque on a door stoop; or an Afghan dog undulating in its gait, we think of dignity. But dignity is in *our* thoughts because *we* are human, unique in our power of abstraction, conscious of the distinction between dignity and abjection. More important, we sense that dignity, and freedom, and justice are not absolutes whose comprehension demands more precise measurement, like the diameter of the Earth or Planck's constant. From the time we emerge from childhood, we are aware that these are areas of personal judgment, areas for choice and not for final solutions, for search and not for final explanation. We seek clarity, lucidity, but no ultimate answers. Even philosophy searches, not for final answers but for insights into those mental processes that pose for the human mind its schematic framework and its boundary conditions. Essentially, the study of the humanities is the bolstering of our own inner search for meaning by using the illuminations that poets, philosophers, writers, historians have projected upon the problems of the human condition.

No matter how accurate their measurements, econometricians or cliometricians cannot throw any light upon the torments and ambivalences of jealousy, or guilt, or vengefulness; but Shakespeare can. When a young man is torn between love of country and love of humanity, between accepting service in Vietnam and becoming a deserter, no one can give him a slide-rule answer. He may derive some insight into the essence of his quandaries by reading Sophocles' *Antigone*, but hardly any from the writings of political scientists like the distinguished professor who viewed the American bombing of South Vietnam simply as a "force-draft urbanization and modernization."[4] Reliable as the analytical predictions of such scholars might even turn out to be, they obviously leave out some variables, such as the value of human life and the question of who makes decisions for whom.

At some point in his own life, every individual faces the emotional abyss that existentialist philosophers have called the "absurd" of the human condition: the absence of intrinsic purpose in human life coupled with the need to made moral choices. Even the most convinced believer in a revealed religion that makes human life a test for future salvation realizes that what gives meaning to his or her inner life is an emotional revelation rather than an analytically demonstrable proposition. Pascal's best efforts led him to a bet that would hardly be taken seriously by an econometrician, let alone a smart bookmaker. The senior author of this paper, brought up in the religious tradition, remembers from his early teens the shattering yet liberating experience of asking himself: Why should the Jewish religion be the right one just because I happened to be born a Jew?

Growing up means facing the absurd aspect of life; accepting the relative arbitrariness of one's choices in the area of values as distinct from the choices we make at the forks of a road when we know where we are going. The real adult, especially the adult intellectual, is the person who can act purposefully in society and yet realize that his or her purpose is only a choice, an act of the will, utterly different from the purpose of a scientist in exploring and interpreting natural phenomena. The difference, of course, is not just in the degree of determinism. Many natural phenomena have stochastic features as well as deterministic ones. But in science, even at the least deterministic level, indetermination does not mean free choice, only uncertainty. Choice is the product of consciousness, and morals are but the impact of consciousness on relations among human beings.

This view of morals is not equivalent to the view of the cynical rationalist who dissects every value into motives and reduces every choice into impotent frustrations. Nor is it a justification for a random, psychic, or solipsistic pattern of action. This is where the humanistic tradition comes in, offering not only the alternatives proposed by others in the past, but the arguments that were offered in their support, the comforts that these arguments provided, and the stimulus to further search. The humanities are a methodology appropriate to dealing with the insoluble and to the needs of those who face the absurd.

Because of what they deal with, the humanities may be as insusceptible of useful quantification as the natural sciences and some areas of the social sciences are unsuitable for emotionalization. We believe that there is no way of rationalizing out of existence the problems of growing up and facing the existential uncertainty and yet acting and choosing as if one's choices were well grounded, all the time maintaining the integrity of one's inner questioning. Yet, attempts are always made, in a variety of ways, to deal with the insoluble as if it were soluble.

On the one hand there is the pretense that the science of the human spirit is not yet quantifiable only because it is still backward, like physics 500 years ago. But this is a self-delusion. There is little reason to believe that future knowledge of the human brain and of language and of the physiology of emotions will ever bring to man a scientific solution of the conflicts between the self and the nonself, between consciousness and impermanence, between life and death.

Another way to explain away the human predicament is to look backward into our ancestry and to attribute human emotions to humankind's animal past. Ethologists have looked at human drives and aggressions as biologically determined inheritance from our wild ancestors. No doubt we have inherited modes of emotional response and behavioral attitudes, just as we have inherited skin, teeth, and eyes. But on top of all that, in the last few million years we have developed language and consciousness and abstract reasoning. These are the developments that produced the unique quandaries of the human spirit. A much greater part in our emotions and drives must be played by this uniquely human heritage than by the remnants of our wild ancestors.

A more sophisticated attempt to do away with the insoluble conflicts of the human condition would be to assume, along the lines championed by Skinner,[5] that the variety of choices and questionings that human beings face are not a manifestation of insoluble inner conflicts but are generated by a learned avoidance of punishment. These problems are soluble according to Skinner, if only one learns to program the environment so that contingencies between choices or acts and their outcomes are not punishing. The weakness of this reasoning, however, stands revealed as we consider its assumptions: that there is only one possible act, one preferred choice, and that one selected by the programmer. What about when there are two or three or *n* programmers? One who says to our young man of draft age: serve in Vietnam; another: escape to Canada; a third: go to jail for your convictions?

The essence of the insoluble is just that we live, and would choose to live, in a world full of freedom and dignity, not beyond it—even if it were possible to do so. Despite the suffering that questioning generates, we choose to live with it because we sense that anything different would in one way or another—by focusing on animal instincts or on our programmability—make us into automata or into tools instead of free agents. It is precisely the willingness to face the categorical imperative—to deal with men as goals and not as tools—that generates the insoluble knots of the moral life. And that is where the humanities—nonprescriptive, nonprogramming, but infinitely reassuring—offer to us a strong line of support.

Yet from within the humanities themselves there comes a weakening of the humanistic spirit. The acceptance of pseudoscientific scholarship, and even the one-sided analysis of human phenomena as in cliometric history, undermines the status of the humanities as the source of inner enlightenment. Unfortunately this kind of distortion is fostered by the academic tradition, which requires of humanists as of chemists or civil engineers the production of "original research publications." This forces inane pursuits on people—the great majority of humanists—whose real scholarship is reading, interpreting, and, fortunately for their students, teaching.

We must make a distinction, however, lest our thesis be misinterpreted as a defense of the irrational against the rational, of the counterculture against culture, of mystical intuition against scientific knowledge. In attempting to define the proper purview of the humanities we do not wish to claim that factual problems can be solved by irrational means or by an intuitive, uneducated approach. We question the belief that the humanistic approach can apply usefully to the field of the solvable, even though in the progress of science one recognizes the important role of insights whose origins have a quasi-artistic quality. What we maintain is simply that the humanities provide a guiding light in the search for constructive approaches toward satisfying mankind's yearnings. Only in the nightmare of a psychologically conditioned humanity, as in Huxley's *Brave New World*, could these yearnings disappear and, with them, humanity itself as distinct from the primate *Homo sapiens*.

It was not the purpose of this paper to place science and the humanities in opposition. In fact, the sciences may have a major role to play in helping rescue the humanities from the danger of submersion into an irrelevant aping of the scientific enterprise. In the first place, scientists more than other intellectuals are aware of the power and of the limitations of their disciplines. Most of the great advances of science have consisted in the clarification of the knowable and the unknowable, of the limits of specific approaches, and of the methodological implication of these limits: Gödel's theorem, relativity, quantum mechanics, information transfers in living cells. Serious scientists have never claimed that the methods of science are appropriate to the ethical and emotional problems deriving from human consciousness, even though they may hope that a science of the human mind may ultimately throw some light also on the dilemmas of the human condition. Yet, for the time being science and the humanities can best remain separate and mutually respecting intellectual activities, the one providing the instrument to deal with the soluble, the other offering some hope for coping with the insoluble. The two cultures together are still better than either one alone.

REFERENCES

1. R. W. Fogel and S. L. Engermann, *Time on the Cross: The Economics of American Negro Slavery* (Boston: Little, Brown, 1974).

2. See F. Engels, *The Condition of the Working Class in England* (Stanford: Stanford University Press, 1968).

3. P. B. Medawar, *The Art of the Soluble* (London: Methuen, 1967).

4. S. Huntington, *Foreign Affairs*, vol. 46 (July 1968).

5. B. F. Skinner, *Beyond Freedom and Dignity* (New York: Knopf, 1971).

KENNETH S. TOLLETT

Community and Higher Education

Is A WORLD and national community of peace, concord, plenty, and justice possible? Modern modes of transportation and communication make community in a physically geographical sense possible at the same time that the improvement or restructuring of institutions and a more rational redistribution of resources and political power could put peace, abundance, and justice within grasp. The world, some sermonize, is just a small community. But this cosmopolitan moralizing is too frequently received the way a young boy met the remonstrances of his mother. After he had left half of the sumptuous lunch his mother had prepared on the plate, she expostulated: "Johnny, how could you leave so much of your food untouched? Don't you know there are millions of people starving to death in China?" Johnny retorted: "Name two!" Johnny's callous unconcern for statistical and remote horror expressed more than indifference for unknown or unnamed sufferers; it also bore witness to the linguistic fact that a proper name connotes a person or personality.

Obviously, there is little hope for national or universal community if it requires a "primitive" or juvenile knowing of the names of millions of people across the world. Yet I believe the major hope for national and world community is a commonality of knowledge and of symbolization, for as Ernst Cassirer has written: "Only symbolic expression can yield the possibility of prospect and retrospect, because it is only by symbols that distinctions are not merely *made*, but fixed in consciousness."[1] Such commonality of knowledge and of symbolization is the precondition for a commonality of consciousness which can permit and create a transcultural, trans-social, and transnational empathy, sympathy, and concern.

My hope for a national and universal community is instrumentally placed in the teaching and curriculum of higher education. Without succumbing to cultural and educational chauvinism, I believe that the United States is in a strategic position to foster world community and that the best place to start is in its institutions of higher education.

Education is essentially an intellectual process which transmits and creates knowledge or information, develops and structures critical cognitive powers, enriches and reinforces human sensitivity and sensibility, and combines the urge to explain, control, and reunite with nature into a purposeful pursuit of an understanding of the relationships between and among human beings and nature. It is also a source of power. The approximately 2,600 higher education institutions in the United States carry on this process in various ways, motivated by diverse conceptions of the appropriate model[2] or of the functions of postsecondary education. One writer distinguishes the autonomous functions of a university from its popular functions;[3] another observer characterizes higher education in terms of a series of services related to production, consumption, and citizenship. In this schema, the citizenship function is the most relevant to the instrumental value of higher education in nurturing a national and universal community. This function relates to those activities which prepare students, alumni, and faculty members to perform their civic responsibilities. Adaptation to and the critical evaluation of society and world order may be prominent processes in these activities.

Despite the diverse models and complex functions of higher educational institutions in America, these institutions are in a peculiarly advantageous position to promote universal community. Although elementary and secondary schools are the ideal places for such a purpose, they are essentially parochial and nationalistic in their outlook. They attempt to serve as a unifying force in a multiethnic and multireligious society. Universities and colleges, however, are comparatively cosmopolitan institutions and thus are generally more receptive to foreign people, ideas, and ideologies. Moreover, they are less sectarian than religious establishments and more benign than multicorporations.

Although jingoism, foreign adventurism, and xenophobia can be cultivated in colleges as well as in any other institution, the commitment of higher educational institutions to the intellectual process, to the pursuit of knowledge, and to purposeful understanding is the most fertile ground in which to cultivate a sense of national and universal community based upon a community of thought, knowledge, and understanding. Furthermore, assaults against the barriers to universal community can be initiated in universities with less resistance than in most other institutions. Once the spadework for tearing down the barriers is completed there, the effort can be continued into other institutions, including elementary and secondary schools. My ultimate or overarching goal for higher education is that it should provide and create the intellectual and emotional conditions for a universal community. It should nurture and sustain a universal community of thought and aspiration within the framework and context of pluralistic societies.

An Epistemological Prelude

Before discussing fully the barriers to, fears of, and hopes for a universal community, a word needs to be said about how one's training, particularly academic or intellectual, affects one's perceptions and conceptions of things and processes, including the educational enterprise. Intellectual and cognitive discourse upon any subject, process, or activity entails the use of words, symbols, and concepts. Necessarily one will bring to bear on any such discourse his own vocabulary and fund of concepts. One's particular experience and training may or may not be reflected in how one writes, and if they are reflected in it, they are likely to be reflected more in the form than in the substance. The substantive content of one's analytical and descriptive discourse will almost inevitably reflect directly or indirectly the particular concepts and principles one is accustomed to use in analyzing and describing the concerns and problems of the subject matter in which one is trained. A great amount of analogical thinking and reasoning is practiced when a well-trained person writes outside his major area of training. The same is true if the area described and analyzed does not have its own set of well-formed concepts and principles. The lure of the arresting and persuasive metaphor or analogy is ancient, pervasive, and universal.

To return to Cassirer: Is the order of nomenclature derived from perceived external similarities of objects or activities or from different objects or activities performing the same function? In *The Savage Mind* Lévi-Strauss seems to develop a socio-logic rooted in functional identifications and relations among different parts or aspects of objects or processes where the gross objects or processes perform similar functions in different societies.[5] Nisbet in *Social Change and History*[6] shows that the cyclical theory of history stems from analogies of the life-cycle, and the Western notion of progress and development was derived from analogizing the Greek concept of *physis*—say, plants with human communities. Nisbet defines metaphor as a way of proceeding from the known to the unknown. "It is a way of cognition in which the identifying qualities of one thing are transferred in an instantaneous, almost unconscious, flash of insight to some other thing that is, by remoteness or complexity, unknown to us."[7] In this sense, it operates like a presumption in law. Mumford in *The Myth of the Machine*[8] speculates by way of analogies that ritual, language, and social organization, rather than the shaping or using of tools, are the defining characteristics of *Homo sapiens*. All of these writers warn, however, of the dangers of analogies and metaphors.

One's particular training and experience provide one's discourse on any subject not only with a pre-existing set of concepts and principles, but also with a preformed structure, including categories of thought. Structures or categories of thought are not always easily distinguishable from concepts in or of thought. Sometimes the former appear to be more fundamental and universal than the latter; at other times, more formal and methodological. In any case, preformed structure and categories of thought complicate the evaluation of scholarly or, for that matter, any other kind of discourse. Scientific knowledge has implicit in it the epistemological basis for a society and culture's thinking. But lags in community understanding of scientific knowledge cause great difficulty and misunderstanding.

Perception of reality, of what F. S. C. Northrop[9] has called "first-order facts," is molded by conceptions and theories about how objects and activities are known. First-order facts are "the introspected or sensed raw data, antecedent to all theory and all cultures, given in anyone's experience in any culture."[10] Differences in conception and apprehension of first-order facts result in different "second-order facts," which are cultural artifacts. These artifacts produce, for example, the law of a given society.[11]

Very often it may matter less what one thinks than why one thinks it.[12] A comparative anthropological and sociological study of various cultures has revealed three major species of law: (1) mediational law, (2) law of status, and (3) law of contract. Mediational law is a product of radical empiricism, which maintains the epistemological theory that objects of knowledge are known with their defining properties and that the concepts intuitively applied to them get their meaning by the objects being immediately apprehended. Immediate apprehension is what Northrop calls the aesthetic component of knowledge. It represents the approach to knowledge of most Oriental cultures. Universal or broad general rules are not applied. One is required, in judging a legal controversy, to react to a concrete situation. This is the epistemological explanation of the mode of justice which Max Weber has described as Khadi justice.[13]

The law of status is more important to us because, in a large measure, it explains and accounts for the fundamental beliefs and conceptions which undergird racism and sexism. The epistemological approach shifts from "radical empiricism" to "naïve realism." The difference in them is that radical empiricism recognizes the importance of the relative position of the observer. What is directly sensed is real. Although broad principles may be conservatively abstracted and induced from the direct observation of phenomena, it is not appropriate to introduce imageless concepts by postulation. Undue importance is given to the immediately apprehended or to purely inductively sensed entities and relations. Sensed biological human traits are emphasized, and codes of conduct merely describe or make inferences from surface differences, thus freezing the norms of the traditional status quo. Such a society's natural-history biology asserts itself:

> No child exists without parents. From this scientific law of sensed biological human life, there arises the basic, determinate, ethical rule and legal norm of a non-technological society—the tie of the family and the priority of the family to the individual. . . . Having based one's social ethics and law in this manner on the sensed objects of natural-history biology, the sensed color of skin of people becomes important ethically.[14]

The law of contract, on the other hand, is based upon an abstract postulational epistemology. Northrop calls this approach "logical realism." He further says:

> Logical realism affirms, with radical empiricism, that all directly observable items of knowledge are relative to one's frame of reference to different observers at rest relatively to one another on the same frame of reference and to different sense organs of the same observer. Consequently, while still affirming realism, it rejects the naive realist's thesis that either a public self or any other public object in a public world is directly sensed or introspected, affirming instead that it is knowable only by *imageless, speculatively introduced concepts by postulation,* the correctness of which is confirmable only indirectly and experimentally via recourse to epistemic rules of correspondence with radically empirical given, relativistically sensed or introspected data. . . .
>
> A concept by postulation is one, therefore, designating some factor in man or nature which, in whole or in part, is not directly observed, the meaning of which may be proposed for it postulationally in some specific deductively formulated theory.[15]

Practically all of modern science, particularly physics, is made up of such concepts. Certainly the basic concepts, such as those of the electromagnetic wave or of the electron, are such imageless, postulationally conceived entities or relations.

This description is a rather tortured way of saying that Western law has evolved from a status-oriented law to a contract-oriented law. Northrop has drawn certain conclusions about a postulationally conceived or contractually oriented law:

> First, its identification of the ethical and the socially legal with abstractly and imaginatively constructed, rather than with inductively described, biologically conceived human norms and relations, such as primogeniture, makes possible ethical and legal reform. Both ethics and law are freed from the norms of the traditional status quo. Second, its norms have much greater generality. Instead of identifying the ethically good with inductively observed tribal, cast, class, or color concepts, the good can be identified with all individuals who freely accept the postulates of the contractually constructed system.[16]

This profound, though abstruse, analysis of the epistemological basis of various types of law suggests that it may be exceedingly difficult to bring diverse cultures and nations under the regimen of a Westernized type of international law. It also discloses a more intractable barrier to a universal community, namely, radically different perceptions of reality. People with either a radically empirical or a logically realistic perspective would seem to be able to accommodate to each other more easily than to a naively realistic people—at least in terms of the problems of sexism and racism.[17] Furthermore, the social sciences, in their search for scientific respectability, sometimes too readily base their thinking on models drawn from the natural sciences. As Matson has wisely observed:

> The historic reliance of the social sciences upon root metaphors and routine methods ap-

> propriated from classical mechanics has eclipsed the ancestral liberal vision of "the whole man, man in person" (to use Lewis Mumford's phrase)—and has given us instead a radically broken self-image. The tragic history of the breaking of the human image parallels the disintegration of the inner sense of identity, the flight for autonomous conduct to automaton behavior, in the modern world.[18]

To some extent postmodern youth's rebellion against reason can be attributed to their rejection of those omnisciently encapsulating concepts of reason which claim to explain everything by concepts like the principle of complementarity, organismic systems analysis, or computerized, programmed, cost-benefit analysis. They want to know and experience the funkiness of blues, the expressive soul of jazz, and the biophiliac joy of an authentic human community, but they cannot escape the root metaphors of science and their meanings.[19] Postmodern youth's understanding of the Darwinian link between man and animals has enabled many to accept their animality as an integral part of their humanity in a way some "rationally" repressed adults cannot. They affirm the validity of such values as authenticity, expressivity, intimacy, and autonomy.

Thus, another substratum of epistemological analysis further complicates the problem of appraising a discourse in terms of or in respect to the discourser's training. That is the problem of values:[20]

> Values are nothing but strongly felt preferences or wants. *On the whole they are the acquired products of experience and conditioning.* More rigorously stated, they are epistemologically determined by how man perceives and conceives himself, others, and the world about him. [Italics added.]

Just as values define wants, symbols communicate things and norms regulate the enjoyment of them.

Therefore at least three major factors must be reckoned with in appraising an intellectual discourse upon any subject: (1) the disciplinary concepts and principles of the writer, (2) the structure or method of thought and epistemological presuppositions of the writer, and (3) the values of the writer. The purpose of this rather abstract discussion of epistemology is to make us self-conscious about the nature of intellectual analysis and description. This observation is doubly important when appraising discourses on national and world community or the purposes of higher education, for those subjects are surfeited with epistemological and anthropological considerations.

Barriers

The trend in modern higher education to drop foreign language requirements will adversely affect the goal of a universal community. As Edmund Leach has said, "Mutual intelligibility is a fundamental necessity for any cohesive social group."[21] Removing foreign languages from university curricula undermines a potentially forceful movement toward a universal community, for the language barrier is one of the most diverse things in the world. Language is a medium of communication and expression. Many experiences can be shared only symbolically through languages, images, and ideas which evoke similar feelings and thoughts. It is most difficult for people to relate to one another when they cannot communicate. Duncan has gone so far as to posit that "disorder in society originates in disorder in communication."[22]

If one is interested in a universal community, one wants to teach subjects and supply information that will break the communication and information barriers. In addition to languages, history and anthropology assume great importance in this respect. Anthropologists sometimes seem to have fewer prejudices and biases than any other intellectual group I know. They have the ability to submerge themselves in another culture without making invidious judgments regarding it. The historical study of other cultures and other periods should, if properly taught, make one less arrogant about one's own place in history. In the West, however, the study of history has tended to belittle other cultures and societies. Even anthropology has suffered from ethnocentricism in the past. Black studies and ethnic studies are, therefore, needed to correct the imbalances in the Western treatment of nonwestern nationalities and cultures.

Of course, the purpose of improving communication and expanding intercultural horizons and information through anthropological and historical studies is to reduce the negative and destructive impact of personal experience and concern which may give rise to antisocial personalism on the interpersonal level and to imperialistic nationalism on the international level. From one viewpoint, it could be said that this purpose reflects a nostalgia for the liberal concept of higher education. In addition to cultivating aesthetic sensibilities and a capacity for critical and independent judgment, education within the liberal framework ideally seeks also to stimulate broad human sympathies. But in the past, classical and liberal education has often operated discriminatorily for, in Martin Trow's words, "the selection, formation, and certification of elite groups."[23]

Postmodern white youth and many blacks would level the charge of irrelevancy especially at my reference to foreign languages, although many recognize that learning a foreign language not only might expand human sympathy, but might also create respect for the people identified with the language. This explains black students' interest in Swahili. From still another viewpoint, however, just as the teaching of Swahili is considered trivial at best or ideological at worst, so my references to foreign languages, anthropology, and history might also be considered.

Ideology

Intellect is usually used in contradistinction to emotion and passion. Desires, wants, and feelings are frequently regarded as products of emotion and passion, while values are thought to be strongly felt desires and preferences. It might be said that ideology is the "rhetoric" of values for a particular individual, group, society, or nation. According to this dichotomy, ideology—with its sources in emotion and passion—must be incompatible with or the corruption of intellect; it must be unscientific, subjective, and irrational. And these characteristics since the Enlightenment have been regarded as vices in intellectual and educational pursuits.

On the other hand, the technological fallout of the scientific revolution threatens humankind with chemical-biological-radiological holocaust, and a counterrevolution has set in, particularly among postmodern youth and their adult sympathizers and imitators. This counterrevolution has exposed the speciousness of some claims to scientific objectivity and rationality. Yet, if the criticism and protests are studied closely, the disenchantment is not so much with the defects of science, technology, and intellectuality as with the failure of these to be put to humane and life-sustaining purposes.

Although the counterrevolution is understandable and in many respects salutary, it runs the risk, as have many other counterrevolutions, of overreacting and thus becoming counterproductive. The counterrevolution appears to be propelled more by mood than ideology. Nevertheless, it is not so nonideological as it appears. An ideology or reason that was really an aspiration for reason and objectivity has been replaced by an ideology of self-expression and authenticity. Authenticity is the post-modern youth's reaction to rampant hypocrisy. I submit that this posture is not the answer to problems of ideology and intellectual rationalization or to justifications of the military-industrial complex and the status quo.

The effort of intellectuals to de-ideologize academic pursuits is and was in part a response to the excesses and outrages of ideologically inspired religious, political, and economic wars. History is largely a melancholy catalogue of almost endless strife, exploitation, and oppression prompted by zealots of various ideological persuasions seeking to impose their perfect perception of good and evil upon others. All ideologies should be approached with skepticism so that one never gets the overweaning conviction that anything and everything are justified in order to realize one's particular ideological outlook. I believe the greatest moderating influence for the control of ideological excesses is frank and open admission of ideological biases and predispositions. This is a minimum requirement for intellectual honesty and integrity—intrinsic values of the intellectual enterprise in an institution of higher education. The ultimate intellectual values are the passion and the desire for explanation which come reliably only from the pursuit of truth and knowledge.

Missionary zeal—whether religious, political, or economic—gives rise to proselytizing and crusades. Crusades, or holy wars, or quests for the Holy Grail usually end in killing men's bodies in order to save their souls. The modern version of missionary imperialism is found in that sordid misadventure of the United States in Vietnam, where villages were destroyed in order to save them. One cannot be sure whether the values of liberalism arose in reaction to the excesses of missionary zeal or as a by-product of enlightenment and reason—perhaps both. In any case, the constituent and complementary values of liberalism are a passion for freedom and liberty and a commitment to tolerance. In some respects, freedom and liberty are universal values. Who is against freedom? But some announce for freedom and liberty and then proceed to coerce others to be free or to impose their personal concept of freedom upon others. Missionary liberalism, like missionary Christianity, can be very imperialistic. After all, what has been the white man's burden but to bring reason, Christianity, and liberty to the heathens of the world?

The complementary value of tolerance in liberalism is perhaps the most neglected value. It presumes a modesty of knowledge which requires maximizing the leeway and opportunity for others to pursue their own thing. It can live not only with competing concepts of good and evil, but also with competing concepts of freedom or any other ideal. The United States has shown that religious toleration and freedom can work in a religiously pluralistic society. The alternative to tolerance is imposition and imperialism. The greatest challenge to an ideology of tolerance is an ideology of intolerance. The antidote to intolerance is not ideological belligerence and imperialism, but patience, sympathy, and the paradigmatic vitality of the free pursuit of truth with its necessary politics and culture of civility and probity.

A liberal is not so sure of himself or his thoughts as to believe he knows it all or has found the definitive solution to all of humankind's problems. He recognizes, as Howard S. Becker and Irving L. Horowitz have observed, that "the price of civilization, civility and living together peacefully is not getting everything you want."[24]

Conservative critics of liberals, such as William Buckley, recognize this characteristic of liberals and have used it as a basis of searching criticism. Buckley has suggested that we liberals are so uncertain in our convictions that we are not able to act.[25] He would say, I suppose, that we are Hamlets whose resolutions to act are glazed with the pale cast of thought and indecision. This, indeed, may be a weakness of liberals, but thought and mental powers are the essence of humankind. Human beings are distinguishable from other animals, I submit, by their heightened power to think logically, critically, and creatively. But a liberal, I believe, is more than a thinking human. A liberal is a human thinking about how one can better improve one's fellow humans' condition. He is an optimist about human possibilities. He does not accept the proposition that poverty, ignorance, suffering, oppression, and war are inevitable and ineradicable. He does not believe that all right is on his side and all wrong on the other side. He finds it difficult to overgeneralize that all white folks are bad and that all blacks are good or vice versa. He recognizes that the great achievements and failures of humankind have been forged in the smithy of peoples' minds. He recognizes that a cultivated and responsive mind, attuned to the needs of humankind, can design and mold improvements in humankind's existence. If a thinking mind cannot be trusted, then all that civilization has wrought—its science, art, technology, and religion—cannot be trusted; indeed, humankind itself cannot be trusted.

Please do not misconstrue my remarks about liberals. It would be illiberal for me to suggest that only liberals are concerned and have the interest of humankind at heart. But conservatives are more pessimistic about human nature and the possibilities of collective improvement. In some respects, they may be more realistic. They are skeptical about welfare programs, world-order models, and other nostrums for social improvement brewed up by so-called liberals and "do-gooders." They sometimes, and not too much in error, say liberals are concerned about humankind, but care little for the individual, except as he is part of a social group. They also maintain that liberals forget that traditional, sometimes genteel, notions of courtesy and good manners are conducive to improved human relations.

Since higher education is given an instrumentally important part in creating the conditions and attitudes for developing a national and universal community, a word should be added about the interface between liberalism and liberal education. Liberal education has played a crucial role in stimulating and encouraging the psychocultural revolution of postmodern youth. But some observers, James Q. Wilson among them, have argued that liberal education has ironically produced adversaries of liberalism.[26] Liberalism to Wilson is "a loose set of values that emphasizes the protection of civil liberties, the support of equal political and economic opportunity, the melioration of the lot of the disadvantaged, and the enhancement of the area of personal self-expression."[27]

These values would seem to serve well the universal community values of preventing war, poverty, pollution, oppression, and of affirming identity. But, in Wilson's view, liberal education not only "broadens one's cultural and historical sensibilities"; it also "strengthens one's critical faculties."[28] Thus, "while the critical faculty requires the existence of civil liberties, it also erodes the bases of authority and legitimacy of those institutions that define and defend those liberties."[29] Furthermore, cosmopolitanism, another product of liberal education, "is directed not so much against conventional opinion as against conventional morality, which is to say, against bourgeois morality."[30] Although on the whole this may be a plus for developing universal community, its tendency to react naturally or sympathetically to a variety of aesthetic, political, and cultural patterns may be transformed into an asocial fascination with and fixation upon the macabre, the orphic, and the demonic. The phenomena of the Manson family, resurgent interest in astrology, and back-to-nature neoanimism are evidence that this transformation is already taking place in some segments of the postmodern youth counterculture.[31]

Wilson adds that liberalism as conveyed by higher education "is less a theory of justice than a theory of benevolence."[32] By "benevolence" he means "a disposition to treat someone in a generous way, to serve his or her perceived interests and desires."[33] This benevolence, when undergirded with a philosophy of authenticity and pure emotion, may be transformed into missionary paternalism and intransigent rage. Thus, the constraints of reason and a minimum appreciation of order must not be abandoned in pursuing universal community through the liberalizing tendencies of higher education.

The Nation-State

Two aspects of the nation-state situation threaten and undermine the realization of a universal community: patriotism and imperialism. Patriotism is a noble and self-transcending emotion, but it can lead to or tolerate much mischief. It almost automatically condones war-making, and it too frequently regards as treasonous the criticism of war. Thus hawks should beware patriotic fervor which fiercely flies into war and quickly swoops down upon peace lovers; on the other hand, doves should beware the narcissistic excesses of overly self-confident righteousness and arrogantly ethical self-transcendence.

Nevertheless, patriotism is nationalistic narcissism and willfulness. It feeds upon the antipathy of humankind to be alone and disconnected. Love of nation and loyalty to government fulfill a need for a sense of belonging and identity. This need cannot and should not be ignored; but it can be moderated in its patriotic excesses by uncovering it. A more positive response is to replace the predominant drive for community clannishness with a commitment to a community of knowledge and learning. A universal or world community will develop, to quote Robert Hutchins, "only through a common training, a common appreciation of the different kinds of knowledge and of the different methods and techniques appropriate to each, and a common, continuous discussion of the Socratic model of those ideas which can pretend to be important, together with the consideration of the practical implications of those ideas."[34] This suggests that I am using Dr. Hutchins' notion of a university as a community of learning to serve in the national and international spheres the socializing role public education has played in the United States in the national sphere: that is, to promote and nourish cohesion and a sense of community in a heterogeneous and pluralistic national and international order. Communal universalization may be a better phrase than socialization, for the purpose is not to adjust students to the chaos and vested interests of the national and international orders, but to create an aspiration for a minimum sense of universal community and international cohesion.

Christopher Lasch and Eugene Genovese have made a related plea in terms of humanizing "the conditions of industrial apprenticeship by restoring the unity of all learning."[35] Although one can appreciate the sentiment of this plea, there is some problem with the idea of "restoring the unity of all learning" because "restoring" implies that all learning was once unified. The assumption behind my approach, on the other hand, is that learning can be universalized, and that the disruptive conflicts in learning and ideology can be minimized by self-conscious epistemological analysis and the practice of intellectual integrity.

Imperialism

Imperialism is by definition the domination of one nation-state over other nation-states or peoples. There is a move in certain intellectual and idealistic circles to de-emphasize the importance of the nation-state because it is felt that nation-state consciousness is a *sine qua non* for imperialism and its recurring war-making consequences. Underdeveloped and new nations are being victimized by this new attitude in somewhat the same way proponents of black power and consciousness are put off and embarrassed by the rhetoric of integrationism. All three groups need a kind of consciousness of and pride in their countries or ethnic groups in order to attain the identity, self-confidence, and self-assurance necessary for improving their economic and political positions in the world. The challenge for the underdeveloped and new nations is to continue to develop their nation-state consciousness without engaging in its narcissistic and imperialistic consequences. Likewise, blacks and other ethnic groups can be challenged by the problem of developing consciousness and pride about themselves and their heritage without assuming ethnic or racial superiority. The challenge to the "fully" developed nation-states and the ethnic groups who are not especially plagued with a problem of self-respect and identity is to recognize that these new consciousnesses may be necessary steps in community and ethnic-group uplifting.

The movement of underdeveloped nations toward modernization complicates the identity problem. Modernization, properly understood, is the marriage of science and technology in a society.[36] It is sometimes improperly identified with Westernization and thus with democratic and other Western ideologies. The goal of emerging nations is frequently social justice, and it is conceivable that social justice is realizable without modernization. But modernization is also, it is hoped, a defense against imperialism. Since technologically advanced or industrialized nations can easily dominate the less technologically advanced or industrialized nations, nations of the Third World may need to modernize in self-defense.

If modernization is the marriage of science and technology, then it presupposes or tends toward the development of a rational-empirical *Weltanschauung*, if not logical realism. But an existent world-view may be antithetical to rationalism and empiricism; thus, the society's social, cultural, and ideological patterns should be understood fully prior to attempts at modernization. Sociocultural relationships not only may not be conducive to modernization, but also may be changed only at the price of refracting a society's identity. Further, it is not certain that it is feasible to solve technical and economic problems without meeting certain social and political preconditions. In other words, there is no escaping the politicization of the technical—even science is not immune to politicization. The decision to modernize should be internally arrived at, and capital formations so essential for economic development should be internally generated; otherwise, a society or country can be victimized by political and economic imperialism.

Political and economic imperialism is not the only form of imperialism practiced by nation-states. Ironically, underdeveloped and new nations, blacks and other ethnic groups are preoccupied with a self-congratulatory consciousness and identity affirmation because they are victims also of cultural and intellectual imperialism. Without going overboard for the postmodern youth's radical questioning of middle-class and industrial materialistic values, a questioning made possible by an ambience and inheritance of affluence, underdeveloped and new nations would do well to question the desirability of mimicking the industrial and postindustrial nations of the East and West. Flowing through all of this discussion is the almost self-evident importance of learning, knowledge, and education.

Fears

Paradoxically, fear of war and especially of the interpenetrating problems of science and its technological fallout are forging an emerging universal community. Briefly stated, the United States and the Soviet Union are, so to speak, communitized by their comparatively full knowledge of the devastating consequences of a biothermonuclear war. Common knowledge and awareness here have played a role similar to that I would like the universalization of learning and knowledge to play in the entire world. Of course, one of the difficulties is that knowledge of the dangers and threat of biothermonuclear warfare may inspire those who do not have these weapons to acquire them. Further, the communitizing influence seems to be more effective if one already has the devastating weapons. Thus, full knowledge and awareness are obtained if one has the weapons, and this implies that in a certain sense the only hope for a universal community is the universal or widespread acquisition of biothermonuclear weapons. Japanese and West German refusal to pursue a nuclear bomb program is thus far an encouraging sign, and it is to be hoped that other highly developed scientific and technological nations will follow their example. It would be naïve as well as false to contend that the advance and spread of knowledge have reduced the fears or causes of war. There is too much evidence to support the converse proposition. Yet there may be some encouragement derived from the United States and the Soviet Union experience, including SALT I, in terms of the war-reducing effect.

Economic and industrial development may be the only protection that underdeveloped and new nations have against political and economic imperialism. Similarly, if a large number of nations and peoples learn enough about science and develop enough technology to make atomic and other highly destructive weapons, there may be less temptation for the present nonnuclear powers to acquire them. In the long run, they would gain no significant advantage because so many other nations would be threatened by the armaments and would proceed to produce their own devastating weapons.[37] Just as a community which is fully knowledgeable about modern warfare fears war, so a community which is fully knowledgeable about science and technology fears them.

Until the latest fad of ecophilism or ecoescapism and technophobia grabbed us, science and technology were feared primarily because they geometrically expanded the destructive capacity of warfare. Warfare seemingly developed symbiotically with science and technology. From this viewpoint (one that has dominated the entire second quarter of the twentieth century), science and technology were regarded as instrumentally evil, whereas today there is emerging the notion that they are inherently evil. In addition to their destructive complicity in warfare, science and technology now stand charged with destroying nature itself, upon which, of course, mankind depends for survival. Technology is generating overpopulation, ecological disequilibration, frightful life synthesization, organ transplantation, genetic engineering, pervasive pollution, and the extermination of animal species.

The current hysterical fear about science and technology is a great threat to the goal of education toward a universal community, for a universal community depends in large measure upon a universe of learning and expanding knowledge shared by all the peoples of the world. Reason, science, and technology have created unreasonably high expectations. Humankind has overrated them and, disappointed with their failures and accomplishments, has overreacted. Those who rant and rave about the ecological crisis often engage in the most fatuous kinds of rhetoric and trivial tendentiousness. Scott Paradise, after eloquently stating that man is to be valued more highly than other creatures, goes on to write:

> But many cannot believe that anything has value not bestowed on it by men. Those so invincibly anthroposolopsist might just understand that the human race is not an island but a part of the whole community of life. If any species disappears, man and all the rest are diminished. The extermination of animal species attendant on the growth of human population reduces the variety, fascination, and stability of the biosphere. And therefore it erodes the quality of human life.[38]

Really, how important is the variety of fascination of the biosphere in the face of grinding poverty, widespread starvation, oppression, and deadly disease? What must be the reaction to this aesthetic snobbery by ghetto dwellers whose repose and well-being are incommoded by vermin? Even the stability of the biosphere is not an undifferentiated good. Trees have to be cut down before log cabins can be built or newspapers printed. Human nonintervention in biospheric stability would probably result in human extinction.

A solution to the problems posed by science and technology obviously is not a know-nothing ecophilism which inveighs against the technological alterations of the relationship between humankind and nature; nor is it a know-everything technological Micawberism which overconfidently waits for another technological advance to solve the last technological disaster. The great need, as René Dubos said, is "for studies directed to the problems of interrelationships with complex ecosystems."[39] It is too late to return nostalgically to a "Garden of Eden." Perhaps the most we can do is to warn the comparatively idyllic underdeveloped nations of the world of the ecotechnological booby traps hidden in the path of their onrush toward an urban-industrial society. Surely the rejection of reason, science, and technology is not the salvation of humankind.

Hopes

History discloses that three urges have dominated man as he has become more self-conscious and intellectually sophisticated. Those urges are *intellectual* (to explain), *practical* (to affect or control), and *mystical* (to awe, revere, and reunite with nature). The greatest hope for peace is that these urges will be creatively integrated into a universal art and symbolism which communicate and explain a new and more forceful concept of human dignity; a comprehensive natural and social science which posits a new purpose of knowledge, namely, to bring nature and man into a viable harmony based upon a new concept of human dignity; and a new mythology. Such a mythology would foster, in the words of John Campbell:

> the centering and unfolding of the individual in integrity, in accord with . . . himself (the

microcosm), . . . his culture (the mesocosm), . . . the universe (the macrocosm), and . . . that awesome ultimate mystery which is both beyond and within himself and all things:

> "Wherefrom words turn back,
> Together with the mind, not having attained."[40]

Although my perception of hope seems to call more for the skills and imaginative insights of the poet and creative mystic,[41] world order and other models constructed by technocrats and social engineers are important. Nevertheless, the most important work in this area may be done by poets, artists, and humanists rather than technocratic social engineers.

Emphasis on the urge to explain, to control, and to reunite underscores the importance of the intellectual process and thus education as a source for developing universal community. Duncan has said of education:

> The basic function of education is the transmission of traditions, customs, and sentiments which are believed necessary to social order and, at the same time, the creation of methods of inquiry which will help us to solve problems we must solve if the community is to survive.[42]

People in authority wish to educate us in their view of social order and to teach skills regarded as necessary to preserve such social order. Education is highly valued throughout the world, and at least on the university level is amenable to those kinds of instruction and curricula that are conducive to developing transnational sentiments and attitudes. The community of thought, science, and knowledge to which universities are parties can probably be developed in most areas of the world more easily and more economically than any other worldwide aspiration. The critical thought inherent in higher education can challenge more effectively than the activities of any other institution the barriers to universal community. Even the utopian-sounding activity of designing world-order models for the future can be carried on throughout the world in various colleges and universities without embarrassment.

Moreover, designing utopian world order and other institutional models may be a good example of dealing with human problems from a logically realistic perspective. Radically different images of world order are probably called for. Although one should not sycophantically succumb to the lure of modern scientific methods and concepts, at least in the context of world disorder, logical realism is a proved example of postulating bold and unprecedented images for the explanation and control of nature.

Higher Education in the United States: A Problematical Microcosmic Paradigm for World Community Building

The purpose of higher education has thus far been discussed on a rather cosmic level, although it has been assumed all along that what was being written generally was relevant and applicable to higher education in the United States particularly. Indeed, it was stated that development of a universal community should be a cardinal purpose of education in the United States because of the country's influence and power. However, the question immediately arises: How much of a national community has higher education in the United States promoted and nourished? Just as world federalists have referred to the federal system of the United States as a model for world government, it might be useful to refer to the higher educational system of the United States as a paradigm for building a universal community based upon shared knowledge, thought, and aspiration.

The United States, like the world at large, is a pluralistic society, and it is not surprising that its higher educational system is pluralistic. As Dr. Brameld has written, "[T]he present American situation is but a minor instance of the general rule of education's dependence upon its encompassing environment."[43] Some of the troubles of higher education in recent years reflect its casual recognition of its environmental dependency. Higher education in American grew to great prominence as a result of the expertise and service it supplied to the World War II effort and to the prestige-motivated rush to the moon after Sputnik. Its constructive contribution to society through the land grant movement and its successful involvement in World War II and the space program caused society to turn to it increasingly for solutions to myriad problems, ranging from welfare programs to economic and technological development. The professoriate acquired unprecedented status after President John F. Kennedy conspicuously brought so many professors from academia into government. The university proliferated its functions and acquired an image of omnicompetence which it did not diminish by its eager willingness to obtain government funds to do any and everything. Proposals and projects flowed out, and governmental money flooded in. The "collision course" was set into motion.[44]

As society—through the federal, state, and local governments—supplied more and more funds for higher education, it became more and more interested in what was happening in academia. This interest was escalated into a disenchanted obsession when the campuses across the country erupted into protests, sit-ins, and demonstrations over civil rights, the Vietnam war, and environmental problems. Many students and some adversary professors began to project upon the university all of the evils they perceived in society at large. They saw themselves as an oppressed class not too unlike the poor, the blacks, and the subjugated colonies. Self-righteous rhetoric became abundant, modest reason scarce. Much wrong and little good were seen in higher education.

Society reacted. The floodtide of governmental funds abated. The operations of higher education were more closely and critically scrutinized. Professors got on the defensive. Tenure was challenged from the outside; unionism was fomented from the inside. Affirmative action was proposed and imposed by the federal government. Autonomy and the preservation of standards were declared to be indispensable for the preservation of higher education's mission and integrity. Women, blacks, and other minority groups wanted in. Higher educational institutions wanted the turbulence of the late 1960s out. Disrupted, confused, and exhausted, higher education moves into the mid-1970s becalmed, anxious, and uncertain.

The "university troubles" of the 1960s stimulated the establishment of many task forces and commissions to study, evaluate, and reform higher education.[45] The first report of the Assembly on University Goals and Governance was philosophically analytical.[46] In 31 pages, the Assembly report advances 9 themes and 85 Theses which are descriptive, critical, analytical, and prescriptive. The Newman report, on the other hand, criticizes higher education for 113 pages and makes few suggestions, except to recommend withholding expansion and an increase in resource support until steps are taken to make the operation of higher education more effective.[47]

The themes of the Assembly report posit learning as a central mission of the university and argue that educational reform should be based upon knowledge. The report recognizes that education, when it gives financial aid to the poor, may provide significant means for upward social mobility to young people, but also that the pressure on students from certain favored family backgrounds to go to college creates an "involuntary servitude" which is wasteful and ought to be eliminated in higher education. It attacks credentialism, as did the Newman report and the Carnegie Commission.[48] Although it is critical of cronyism and certain vested interests of the professoriate, it recognizes the need for professorial tenure in order to guarantee academic freedom against political and other pressures. The report indicates that instruction must be concerned with what unites the planet and what divides it. It condemns students' scientific illiteracy and a new kind of illiteracy and cultural parochialism which belittle the importance of studying foreign languages. It suggests experimentation with early specialization and other curricular changes.

Despite its emphasis on change and innovation, however, the report recognizes that much is good in higher education and particularly warns against developing "a teaching ethic in higher education that would banish research," because this would probably make teaching sterile. It prudently cautions against the growing dependence of higher education upon public funding which inescapably tends to undermine the autonomy of such institutions. It is for maintaining diversity through women's colleges, predominantly black colleges, and other colleges with special orientations and identifications.

Pluralism: Liberal Arts, Vocationalism, and Special Group-Oriented Higher Educational Institutions in the United States.

That higher education in the United States has been pluralistic in terms of type and curriculum as well as clientele served is incontestable. If it has promoted and nourished a sense of national community, the logic and analysis of this paper would suggest that the dominant model for higher educational institutions should be institutions with strong liberal arts programs. Although it may be fair to say that the most prestigious universities and colleges in the United States have stronger liberal arts programs than most others, it is more accurate to say that liberal arts generally has been on the decline. Even many of the most prestigious schools have adulterated their liberal arts emphasis with notions of relevancy, specialization, and vocationalism or careerism. Yet many colleges have had ambivalent aspirations to provide their students with a well-rounded educational experience. Although the effort to provide liberal arts education has been flawed and somewhat limited, such education has contributed positively to the sense of national community to the extent that it exists. As Hutchins has aptly written: "Liberal education should not be condemned because it was once limited to milers or to those who had the leisure to be human. Now that all men are milers and all will have some leisure, liberal education can be extended to all.[49] The contribution would have been greater were it not for the "adversary culture" element implicit in liberal-arts-influenced liberalism. This element has, however, had a positive impact upon the development and preservation of liberty and an open society.

A paradox of liberalism and an imperative of pluralism are that vocationalism and special group-oriented colleges (such as predominantly black institutions) are quite appropriate. Moreover, liberalism sanctions pluralism; pluralism in turn requires or sanctions vocationalism; and vocationalism is partly antithetical to liberal arts and the notion that education is essentially an intellectual process. But special group-oriented colleges are not antithetical to the liberal arts or to the intellectual process.[50] Furthermore, inherent in the notion of education and in the explication of the dominant urges of humankind is the idea that humans are learning beings. Vocational education is a form of learning, although the citizenship function of education, insofar as it requires education toward a national and universal community, does not find much support in vocationalism.

Affirmative Action and Special Minority Admissions Programs

Affirmative action and special minority admissions programs appear at first blush to be incompatible with the definition and purpose of education set forth herein. They seem to be a political secularization of higher education in that they are primarily concerned with social and educational justice[51] rather than with the intellectual process. But appearance in this case only slightly reflects reality. The citizenship function and the self-actualization inherent in the educational process more than justify acting affirmatively to bring groups into higher education who have been discriminatorily denied access or equal opportunity.[52] The largest possible cross-section of the citizenry should be exposed to the national and international community-building aspects and potential of higher education.

A supposititious even-handedness practiced today cannot correct past injustices. I need not explore the legal and constitutional fine points of the DeFunis case,[53] which held that ethnic background could be taken into consideration in admitting students to law schools because of the compelling state interest in correcting minority imbalances or underrepresentation in the legal profession. Suffice it to say that the nature of higher education developed in this paper is not incompatible with affirmative action and special minority admission programs.

Higher Education: Sui Generis *or Indistinguishable from Other Institutions and Systems?*

This question poses more issues than there are answers and solutions. I earlier addressed the problem in terms of secularization:

> In this context, *secularization* means that the college or university as an institution is becoming less distinguishable from other institutions in the society such as business, government, deliberative bodies, or the Pentagon. As it becomes more like a business, then PPBS (program-planning-budgeting systems), cost-benefit analyses, and unionization naturally follow. As it becomes more like government, then politics, the public good, and social programs become an operative concern and activity of the university. If "deliberative body" is a part of the trend model, then preoccupation with parliamentary procedure political maneuver, and constituency formation develops. If the Pentagon is the trend model, then the university will develop proliferating bureaucracies and mindlessly escalating budgets.[54]

These trends are inconsistent with the dominant themes of this paper and their implication that higher education is *sui generis*. Fresh attempts must be made to construct new models or paradigms for higher education. The lure of science, economics, and mathematics as models must be resisted; they only can tell one respectively the facts, cost, and number of much, but the significance, value, and meaning of little.

The central mission of higher education is learning, learning which promotes a national and universal community. National community must not be corrupted into chauvinism—a great danger. Education is an intellectual process driven by the urge to explain, to control, and to reunite with nature. Intellectual and cognitive rationality should be the driving force and the principle determining its institutional form and substance. More thought must be given to the purpose and nature of higher education. The future prospects generally are not encouraging. Credentialing and certification for vocational and career opportunities are increasing, although there will be an expanding variety in the credentialing and certification process—external degrees, open universities, universities without walls, and other innovations. Dropping in and dropping out of higher education will increase, and the *secularization* process seems irresistible. Yet in spite of all the difficulties that can be envisaged, higher education will continue to play a signal role in developing tastes, sensitivities, sensibilities, and skills. It can move us toward a universal community if it can be deduced what institutional and systematic structures are required of the intellectual process.

REFERENCES

1. Ernst Cassirer, *Language and Myth,* trans. Susanne K. Langer (New York: Dover, 1946), p. 38.

2. Martin Bressler in "The American College: Some Problems and Choices," *Annals*, vol. 396 (July 1971), p. 57, sets forth six major models of the ideal conception of a college: *scholastic* (college is place of mind, time for thinking, and opportunity for knowing); *vocational* (education is a means of obtaining access to possessions, power, and prestige through the credentials of marketable skills which are acquired in college); *action-oriented* (education furnishes cadres for the transformation of society and thus knowledge is not a goal, but a means); *utopian* (education exalts feeling, spontaneity, and improvisation at the expense of mere reflection, prudence, or calculation); *consumer* (similar to utopian model except almost wholly procedural rather than substantive—that is, a student is a consumer seeking gratification, not a future worker putting out production); and *experiential* (education is the totality of experiences which might be beneficial to young adults).

3. Martin Trow, "Reflections on the Transition from Mass to Universal Higher Education," *Daedalus*, vol. 99 (Winter 1970). "The distinction is between those activities and purposes that the university defines for itself and those that it takes on in response to external needs and demands" (p. 2).

4. Clark Kerr, "The Pluralistic University in the Pluralistic Society," *The Great Ideas Today 1969* (Chicago: Encyclopedia Britannica, 1969).

5. Claude Lévi-Strauss, *The Savage Mind* (Chicago: University of Chicago Press, 1966). See particularly chap. 2, "The Logic of Totemic Classifications." Although Levi-Strauss (p. 263) says that "[in a] sense savage thought can be defined as analogical thought," the above paragraph should not be construed as indicating that he gives special prominence to analogical reasoning or thought. The book as a whole is designed, rather, to show the permanence of human nature and the unity of reason. His structuralism, like structuralism in general, turns upon the ideal of wholeness, transformation, and self-regulation. The above paragraph with its references to both Cassirer and Levi-Strauss shows that analogical thought can turn on similarity of function as well as similarity of objects. Levi-Strauss' socio-logic in the above reference seems to be synecdochical. Yet, synecdoche, like metaphor and metonymy, may be regarded as a permutation or transformation of analogy. George Boas in *The Limits of Reason* (New York: Harper, 1961), p. 31, has also said, "the observed similarities which are the basis for grouping things together must seem important to us for intellectual or practical reasons."

6. Robert A. Nisbet, *Social Change and History: Aspects of the Western Theory of Development* (London: Oxford University Press, 1969).

7. *Ibid.*, p. 4.

8. Lewis Mumford, *The Myth of the Machine: Technics and Human Development* (New York: Harcourt, Brace & World, 1966).

9. F. S. C. Northrop, *The Complexity of Legal and Ethical Experience: Studies in the Method of Normative Subjects* (Boston: Little Brown, 1959).

10. *Ibid.*, p. 254.

11. See Kenneth S. Tollett, "Recent Books," review of Northrop, *The Complexity of Legal and Ethical Experience*, in *Texas Law Review*, vol. 39 (1961), p. 372.

12. The discussion in the text following this citation is based largely upon F. S. C. Northrop, *The Meeting of East and West: An Inquiry Concerning World Understanding* (New York: Macmillan, 1946); *The Complexity of Legal and Ethical Experience* (1959); and *Philosophical Anthropology and Practical Politics: A Prelude to War or to Just Law* (New York: Macmillan, 1960).

13. *Max Weber on Law in Economy and Society*, trans. Edward Shils and Max Rheinstein, with Introduction and Annotations by Max Rheinstein, vol. 6: *20th Century Legal Philosophy Series* (Cambridge, Mass: Harvard University Press, 1954). Note 48 at p. 213 states: "*Khadi*—judge of the Mohammedan sharia court . . . Khadi justice (Kadijustiz)—used by Weber as a term of art to describe administration of justice which is oriented not at fixed rules of a formally rational law but at the ethical, religious, political, or otherwise expediential postulates of a substantively rational law."

14. Northrop, *Philosophical Anthropology*, p. 247.

15. *Ibid.*, pp. 31–32; Northrop, *Meeting of East and West*, p. 447; emphasis added.

16. Northrop, *Legal and Ethical Experience*, pp. 188–189. "The significance of [the shift from status to contract] becomes clear if we express the shift from inductively given genealogically defined or tribal status to theoretically constructed status under universal law in a deductively formulated, contractually conceived written or unwritten constitution or theory" (*ibid.*, p. 51). The authority of such law is not tradition, but the consent of those to whom it applies (p. 95). Furthermore, "a contractually constructed norm cannot be regarded as ethical unless if it holds for any one individual it also holds for any other" (p. 189).

17. Of course, this is a debatable statement. Although sexism seems less prevalent in some Oriental societies which have a radically empirical perspective, such as India, Islamism which has a similar perspective is certainly not devoid of sexism. Furthermore, the logically realistic perspective of America certainly has not freed it from racism and sexism, although they may be vestiges of a naively realistic perspective.

18. Floyd W. Matson, *The Broken Image: Man, Science and Society* (New York: Braziller, 1964), vii–viii.

19. Yet it would be wise to heed seriously the words of Hugh Dalzel Duncan: "American sociologists think poorly about communication because of their 'trained incapacity' in the use of non-mechanistic models. The reduction of all science in sociology to research models derived from the physical sciences makes it all but impossible for the sociologist to deal with meaning." Duncan, *Symbols in Society* (New York: Oxford University Press, 1968), p. 5.

20. Kenneth S. Tollett, "The Legalization of Social Ordering," in *Validation of New Forms of Social Organizations*, ed. Gray F. Dorsey and Samuel I. Shuman (Wiesbaden: Franz Steiner Verlag, 1968), p. 423.

21. Edmund R. Leach, "Culture and Social Cohesion: An Anthropologist's View," *Dædalus*, vol. 94 (Winter, 1965), p. 32.

22. Duncan, *Symbols in Society*, p. 19.

23. Trow, "Transition from Mass to Universal Higher Education," p. 2.

24. Howard Becker and Irving Horowitz, "The Culture of Civility," *Transaction*, vol. 7 (April 1970), p. 17.

25. Joseph Epstein makes the same point in a critical commentary upon Robert Coles' three-volume study of *Children of Crisis* when he says: "It is no less instructive as a portrait of the prototypical liberal who, by virtue of understanding everything, finally disqualifies himself from taking a position on anything." Epstein, "Dr. Coles Among the Poor," *Commentary*, vol. 54 (August 1972), p. 63.

26. See, for example, James Q. Wilson, "Liberalism Versus Liberal Education," *Commentary*, vol. 53 (June 1972), p. 50.

27. *Ibid.*, p. 51.

28. *Ibid.*

29. *Ibid.*, p. 52.

30. *Ibid.*

31. Interest in astrology and neoanimism is probably an expression of the third dominant urge of humankind. See the later discussion of three dominant urges of humankind.

32. Wilson, "Liberalism Versus Liberal Education," p. 53.

33. *Ibid.*

34. Robert M. Hutchins, *The Democratic Dilemma* (The Gottesman Lectures—Uppsala University, Stockholm, Sweden, 1951), p. 56.

35. Christopher Lasch and Eugene Genovese, "The Education and the University We Need Now," *The New York Review of Books*, vol. 13 (October 9, 1969), p. 26.

36. Arnold J. Toynbee, *America and the World Revolution* (New York: Oxford University Press, 1962), chap. 2: "The Attraction of the Western Way of Life."

37. By analogy this is further support for universal access and open admission in higher education. Education—that is, the acquisition of knowledge—is a form of empowerment.

38. Scott Paradise, "The Vandal Ideology," *The Nation*, vol. 209 (December 1969), p. 731.

39. René Dubos, "Science and Man's Nature," *Dædalus*, vol. 94 (Winter, 1965), p. 243.

40. John Campbell, *The Masks of God: Creative Mythology* (New York: Viking, 1968), p. 6.

41. Henri Bergson, *The Two Sources of Morality and Religion*, trans. R. Ashley Andra and Cloudesley Bareton (Garden City, N.Y.: Doubleday, 1954).

42. Duncan, *Symbols in Society*, p. 211.

43. Theodore Brameld, *Cultural Foundation of Education: An Interdisciplinary Exploration* (New York: Harper, 1957), p. 3.

44. See David Riesman, "The Collision Course of Higher Education," *The Journal of College Student Personnel* (November 1969), p. 363.

45. For an excellent brief history and review of these task forces and commissions and earlier such efforts, see Lewis B. Mayhew, *The Carnegie Commission on Higher Education* (San Francisco: Jossey-Bass, 1973), pp. 1–25.

46. *The Assembly on University Goals and Governance* (Cambridge, Mass.: American Academy of Arts and Sciences, 1971). The theses and their introduction are reprinted at the end of this volume.

47. *Report on Higher Education* (Washington, D.C.: Government Printing Office, 1971). The Newman report was exuberantly critical of higher education.

48. Carnegie Commission on Higher Education, *Less Time, More Options: Education Beyond the High School* (New York: McGraw-Hill, 1971).

49. Robert M. Hutchins, *The Learning Society* (New York: Harcourt, Brace, 1968), pp. 45–46.

50. For an argument in support of predominantly black higher educational institutions in the face of integration (disestablishment of state dual educational systems), see Kenneth S. Tollett, "Blacks, Higher Education and Integration," *Notre Dame Lawyer*, vol. 48 (October 1972), pp. 189–207.

51. The Carnegie Commission in its *Purposes* report states as its second purpose of higher education the following: "A determined effort to provide places in college for young persons who wish to attend from low-income and minority groups, with adequate financial assistance for their support and with respect for cultural backgrounds. A greater concern for the opportunities available to the total postsecondary age group, and for the total contribution of postsecondary education to the achievement of social justice." (Carnegie Commission on Higher Education, *The Purposes and the Performance of Higher Education in the United States: Approaching the Year 2000* [New York: McGraw-

Hill, 1971], p. 4.) The Commission set forth five main purposes of higher education in the United States: "The provision of opportunities for the intellectual, aesthetic, ethical, and skill development of individual students, and the provision of campus environments which can constructively assist students in their more general developmental growth. The advancement of human capability in society at large. The enlargement of educational justice for the postsecondary age group. The transmission and advancement of learning and wisdom. The critical evaluation of society—through individual thought and persuasion—for the sake of society's self-renewal. These are purposes for the whole system of higher education. Individual institutions will relate more to some than to others. Neither the purposes as envisioned nor performance related to them apply equally to all institutions." *Ibid.*, p. 1.

52. See Kenneth S. Tollett, "The Faculty and the Government," background paper (Washington, D.C.: American Council on Education, October 11, 1973).

53. *DeFunis v. Odegaard,* 82, Wash. 2d 11, 507 pp., 2d 11690 (1973), *cert. granted,* 42 U.S.L.W. 3306 (November 1973) (No. 73-235), *vacated as moot* 42 U.S.L.W. 4578 (U.S. April 23, 1974).

54. Tollett, "The Faculty and the Government," p. 3.

KENNETH E. BOULDING

Quality Versus Equality: The Dilemma of the University

ONE OF THE large themes of the dynamics of society for the last three hundred years, rising to a crescendo in the last hundred years, has been the pressure for human equality. How far this is an integral part of the general movement of economic development, modernization, and the scientific revolution is not wholly clear, though one suspects that the two movements are closely interconnected. A society that exhibits stable inequality like ancient China is not likely to produce science; while a society of scientific advance and economic development is not only likely to produce a demand for equality, but also is increasingly able to afford it.

If we except St. Francis as a slightly doubtful case, Protestantism, and still more the radical Protestantism of the Anabaptists and its successors with the demand for the priesthood of all believers, is perhaps the first great movement of egalitarianism. The Puritans in England carried the demand for equality still further, cutting off a king's head in a dramatic symbolic gesture. The French Revolution, again cutting off a king's head, was another powerful expression of the movement, even if *égalité* in practice meant little more than the abolition of primogeniture. The American Revolution likewise, with only symbolic regicide, produced a society in which, as de Tocqueville observed, the passion for equality was strong, although the desire for a "lottery of riches" in which every man had a ticket was equally strong. Equality of opportunity with moderately equal lottery tickets, rather than equality of results, became the prevailing ideology.

Marxism has derived a lot of its emotional force from the appeal to the movement for greater equality, this time of results rather than of opportunity, though in practice, with the somewhat dubious exception of China, Marxist societies have produced considerable inequalities of income and large inequalities of power. The search for equality still goes on, even though it may be like the Holy Grail which is never found.[1] The search for it is a powerful motivator and is, indeed, perhaps the one that most distinguishes the radicals from the conservatives.

The university has been both a pioneer and a laggard in this movement. The medieval university was almost certainly more collegial and egalitarian than the surrounding society. At Bologna, it is reported that even the students had rights and at times dominated the polity of the university. The Oxford and Cambridge colleges, at least in regard to the faculty, were highly collegial on a small scale. They were indeed one of the earliest examples of participatory democracy. The wardens or masters were elected by the fellows, and while they may have had privileges of superior lodgings, they often ate at the same table and often acted more in the capacity of a chairman than a dictator. The universities themselves were collegialities of colleges. Their chancellors were constitutional monarchs with mainly ceremonial functions. Even the vice-chancellors, who acted in executive capacity, were elected for short terms. As colleges became endowed, however, and became, in effect, self-perpetuating producers' cooperatives of the faculty, students fell to a subordinate position; as they no longer paid the piper, they could call few tunes, and college servants, of course, never had any status or power.

In the American universities collegiality never took strong root. In the nineteenth century they almost universally adopted a corporate form of organization, not unlike the rising corporation in the economic sphere, and became strongly hierarchical in organization. A board of trustees or regents at the top, either self-perpetuating or appointed by some outside body such as a church or a state governor, usually acted as the official "sovereign." In a few cases today the regents of state universities are elected by the people of the state, but this is uncommon. The trustees or the regents appoint the president, often with the advice and consent of the faculty. The president appoints the rest of the administration. Collegiality resides only in the departments, which have considerable power over appointments and become, in effect, self-perpetuating bodies, and to a lesser extent in some senate or faculty council, which usually has a fair amount of control over purely academic matters. In a crunch, however, faculty councils and departments can usually be overruled by administrators and regents, which is where the ultimate power lies. Students and staff have little formal power in the organization.

The political structure of an American university functions as a usually benevolent dictatorship, tempered by an active labor market—that is, in Albert Hirschman's terms, by "exit" rather than by "voice."[2] The right to quit is the greatest of all civil rights if it is combined with an ability to quit. Faculty salaries and staff incomes, too, are profoundly affected by the conditions of the labor market. An excess demand for labor, especially, will exercise a sharp upward movement on wages and salaries. Excess supply is much less effective in producing a downward movement because of the enormous inertia of money wages and salaries, so it is more likely to produce unemployment. This, incidentally, is why we have managed to produce a built-in inflation in virtually all market-dominated societies.

A labor market tends to produce inequalities; collegiality moves toward equality. Where the dominating power of the faculty is the power to quit rather than the power to govern, the faculty will tend to divide pretty sharply into the "cosmos" and the "locals." The cosmos are those who are visible in the labor market, especially through publications and through activities outside the university, such as participating in professional societies, making public speeches, writing popular articles and books, and so on. The locals are those who stay home and mind the store and who do the donkey work of the university in teaching and in such governance and administrative functions as the faculty is allowed. It is not surprising that the cosmos tend to have much higher salaries than the locals. A letter from another dean is far more persuasive with one's own dean than any amount of personal bargaining, individual or collective.

The problem of governance in the university reflects that of society as a whole, in that the major problem is to achieve the optimum balance or proportion between exit and voice. Each of these methods of developing individual power and freedom has its own virtues and its own pathologies. An active labor market provides mobility and variety of experience and high rewards for visible virtues, if not for invisible ones. On the negative side, there is the weakening of local community and local collegiality and poor payoffs for the invisible virtues of staying on the job, fulfilling one's responsibilities to students and colleagues, and so on. Collegiality tends to produce equality. In a truly collegial department, for instance, any increase in budget tends to be equally divided among the faculty, whereas in a market-oriented department it will tend to be apportioned according to competitive virtue, with those most likely to be attracted away receiving the largest share, or it may be hoarded to attract stars from outside at high prices. If collegiality is absolute and unmodified by any external pressures, it can easily be corrupted, as the experience of the Cambridge and Oxford colleges shows. Indeed, the observations of Adam Smith on Oxford are a superb exercise in the pathology of collegiality, which easily turns into the slothful excusing of one another's inactivity and a total absence of progress or development. This is the great principle of the convoy going at the pace of the slowest ship. Individualism in the market produces inequality and progress; collegiality produces equality and stagnation. The dilemma is a severe one and the solution by no means obvious.

One possible solution is differentiation within the organization itself through the development in the university, for instance, of institutes as well as departments. Departments tend to become increasingly collegial and egalitarian. A purely departmental organization, therefore, will discriminate against the more vigorous, ambitious, and productive members of the faculty and will tend to decay into a humdrum level of uniform and undistinguished equality. It may be conceived, for instance, as the principal function of the college or university administration to prevent this extreme collegiality in the departments and to shake them up continually by giving them money to operate in the outside labor market.

The institute has been an important device for legitimating inequality in the university. Institutes may develop a collegiality of their own, but insofar as they operate outside departments, they may serve to bring in individual high achievers who receive privileges in the institute that they would not receive in the department. In this respect, fringe benefits and conditions of work may be much more important than actual salary. High achievers need secretaries and research assistants. They need help in organizing grant applications, research projects, and operations. All this they are not likely to get in the departments, where the egalitarian principle usually operates to make conditions of work appropriate for uniform mediocrity. Any university which aspires to distinction, therefore, is almost forced to go in for a large number of extra-departmental organizations—institutes, centers, journals, and so on. The overhead for these often has to be found by the university, but their major finance tends to come from outside sources, from foundations and from governments. Where the institutes support themselves by selling services, especially research services, they often tend to become embarrassingly distinct from the departmental culture. Indeed, the university has often been forced to disgorge them and set them up as independent organizations, simply because they come into conflict with the collegiality, and even the ethic, of the university itself. The Stanford Research Institute is a case in point. The great virtue of institutes, however, is that they have a higher death rate than the departments. It is virtually impossible for a university to get rid of a department once it has been established; it is relatively easy to get rid of institutes and centers. Here, again, inequality goes along with flexibility.

One of the major problems of the university is the weakness of its ostensibly primary function—teaching. It is universally admitted that university teaching is pedestrian and ill rewarded. While there may be exceptionally good teachers here and there, on the whole, the level of teaching is mediocre to poor, and there seem to be no institutional mechanisms for improving it. In part this is because teaching is so invisible and so hard to appraise. Research and publication have the great advantage of visibility so that, when the question of promotion or salary increases comes up, the faculty member with an impressive record of publications is immediately visible; the faculty member whose main concern is good teaching has his product invisibly distributed over silent students and alumni. Even attempts at student evaluation, which are all too rare, are by no means conclusive, as a student often discovers that he has had a good teacher only when he has graduated and is no longer accessible to questionnaires. It is striking, furthermore, that many of the most influential teachers, such as John R. Commons, who produced a generation of students who went out and changed the world, by ordinary standards were poor lecturers and would never have been rewarded on results of student evaluation questionnaires. A reputation for good teaching is made only by gossip in an essentially collegial situation, and under these circumstances it is not surprising that it is poorly rewarded.

One possibility, which, as far as I know, has been little explored, has been the development of teaching institutes. These would operate something like research institutes in that the major people in them would have half-time appointments in the department and half-time appointments in the teaching institute. Their work in the teaching institute would be the development and appraisal of new courses, experimental methods like the use of media and visual aids, computer-assisted instruction, and so on. Some people could be brought in from outside, some people appointed by proposals from the faculty. There is no reason why we should not have "teaching proposals" just as we have research proposals. Particularly with the development of the new National Institute of Education, the possibility of outside financing for teaching institutes has become rather brighter.

One of the great obstacles, unfortunately, to the improvement of teaching is the collegiality of schools of education, which are perhaps among the most collegial and self-contained of all the schools on a university campus and exhibit many of the vices of collegiality in terms of self-perpetuating mediocrity. The low status of schools of education on university campuses, indeed, is a cause for great concern, particularly when one thinks of the social priorities for the product. Lawyers these days are perhaps mainly concerned with redistributions among the rich, doctors with keeping sick old people alive; both the legal and the medical professions could probably be halved without doing serious damage to society. Educators, however, are in charge of the transmission of the culture, especially of what might be called the "extra-familial culture." If this function is badly performed, society could easily deteriorate with alarming rapidity. From the point of view of social priorities, one would think, therefore, that schools of education should have the highest status on the campus rather than the lowest.

The reason for the low status of schools of education is by no means clear, though it has something to do with the use of the police power in the certification of teachers and consequently the proliferation of required courses, which are required for no other reason than certification. Another reason is unquestionably the almost forced collegiality which the low status of schools of education imposes on them. This is perhaps the collegiality of the ghetto or the excluded community, but it operates nonetheless to reinforce existing mediocrities and to ensure that any distinguished achievement is ruled out and any distinguished achiever is chased out. One of the great tragedies of the university campus is that there is so little communication between the other disciplines and the school of education. Any attempt on the part of the subject-matter disciplines to pioneer in teaching is likely to be received coldly by the established confraternity of the education school. There are one or two notable exceptions to this rule, but they are few and far between. If teaching institutes are set up, it is of great importance that they be independent and that their own tendencies for collegiality be checked by reasonable shortness of life. There is much to be said for the general principle that institutes should not have a tenure beyond that of their founding fathers. There is a strong tendency for this to happen anyway, which is perhaps the most important virtue of the institute form of organization.

At the level of the student body, exit is almost overwhelmingly preferred to voice. Colleges and universities compete actively for students. In the coming twenty years of declining cohorts of student age and declining enrollments, this competition is likely to become exceedingly severe, and the death rate of colleges and even universities may be quite high. Many of the pathologies of the market, however, as well as some of its virtues, are present in this case and will probably increase with increasing competition. Success in competition depends on the visibility, as well as on the virtue of the organization or product, and on visible values rather than invisible ones. Competition in status is hard to deal with and hard to change. It is well known that the competitive advantage of the high-status institutions consists mainly in their status rather than in their educational product—that is, in know-whom rather than know-how. Competition in standards may become dangerous. Easy credit hours for independent not-very-much-study and the erosion of difficult requirements may be factors in institutional survival, at some cost in the knowledge product.

Whether an appeal to collegiality in the student going somewhat beyond football cheering sections would have survival value is an interesting problem. The movement, which is noticeable if not large, toward greater student participation in university governance and even in academic programs may, up to a point, produce not only survival value for the institution, but better education for the student. There are limits, however, to student-faculty collegiality imposed by the brute facts of status in the cognitive system. If a teacher does not know more than a student, he should not be teaching. The inequalities between faculty and student power, therefore, in matters of curriculum, subject matter, evaluation, and grades are likely to persist, although they may be eroded profitably up to a certain point.

Whether increasing faculty control of university governance would have survival value in the coming era is an interesting question to which I must confess I do not know the answer. I suspect we are more likely to see the spread of collective bargaining on the part of the faculty, which is not governance at all, but depends on the development of collective threat power which can rarely be exercised. Collective bargaining transfers some power to the collective bargaining representatives. It may, therefore, easily result in greater inequality of power among the faculty, simply because it almost has to end in agreed statements of general principles rather than in the negotiation of particular cases. It is likely to have an egalitarian effect in which the dilemma between equality and quality may become acute. Universities with collective bargaining may easily lose their cosmos to the surviving islands of individualism. Thus, we may see a further separation in the system between collectively bargained institutions of low but egalitarian quality and individualistic institutions in which the highly visible people tend to concentrate. One might think of collective bargaining as, in part, a revolt of the locals against the cosmos. One can have a good deal of sympathy for this if it results in increasing the visibility of the invisible virtues. One may doubt, however, whether it will have this effect, and it could all too easily succeed in buying equality at the cost of quality.

The only resolution of the dilemma of equality and quality, as far as I can see, is the development of what might be called "supercollegiality"—that is, a sense of community so strong that inequality within the community can be legitimated in the interest of the whole, and in which those on the lower end of the income-status scale can accept their position willingly either because of the lottery principle (a lottery, after all, is a demand for inequality) or because of the "shining in reflective glory" principle, in which the glories of the total community are reflected in the welfare of all its members. The university has had some aspects of this supercollegiality in the past. Whether it can survive the strains of the next generation is perhaps open to doubt. It will have a better chance for survival if it can be accepted as an explicit ideal and if we can also recognize the factors which lead to its erosion. The major factor which leads to its erosion is the consciousness of too great inequality, especially in regard to the lower end of the spectrum within the community. Perhaps, therefore, we need to work on the problem at both ends—the legitimation of quality, on the one hand, even if this can only be achieved at the cost of some inequality, and, on the other, the reduction of inequality where it clearly pinches.

This is a problem, of course, not only in the universities but the whole human community. Indeed, the development of a degree of super-collegiality for the world society sufficient to reduce destructive conflict to tolerable limits is the first priority of the human race, without which it may not survive. And in this task one hopes the universities will be pioneers rather than laggards.

REFERENCES

1. See Kenneth E. Boulding, "Social Justice as a Holy Grail: The Endless Quest," *The Quest for Justice: Myth, Reality, Ideal* (New York: Holt, Rinehart and Winston, forthcoming).

2. Albert O. Hirschman, *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organization, and States* (Cambridge, Mass.: Harvard University Press, 1970).

MARTIN MEYERSON

After a Decade of the Levelers in Higher Education: Reinforcing Quality While Maintaining Mass Education

I. The Decade

EXACTLY A CENTURY ago Daniel Coit Gilman accepted the presidency of the Johns Hopkins University—an institution not yet constructed—and proclaimed that its concern would be quality graduate education with primary focus on research. Half a century of interest in and even agitation for scholarly universities based on the German model thus came to fruition, introducing a new strain of education that would change the emphasis on classical undergraduate education found in the largely religious colleges and on pragmatic education—primarily in agriculture and mining—exhibited by the recently formed land-grant institutions.

Just a decade ago, student agitation erupted at Berkeley, a center of mass education renowned for its superior scholarship. Angry students charged that the university's methods of mass education were inhumane and the criteria of its scholarship irrelevant. That eruption, though hardly so dramatic as the revolt of the Zengakuren in Japan in 1960, was a watershed. For it called into question the dream of the research university with unmatched quality and resources envisioned by Gilman and others.

Prevailing public attitudes with regard to universities had ranged from some suspicion in the formative quarter-century before 1900, to mild but diminished indifference in the four decades before World War II. There then followed a quarter of a century of enthusiasm—an enthusiasm that has been rather substantially deflated over the last ten years. A decade ago it appeared that America had accomplished the impossible. Millions of its citizens were attending institutions of higher education, an achievement unmatched anywhere in the world. At the same time, a score or more American universities had become centers of learning with few peers in the world. The eruptions at Berkeley and elsewhere as well as the responses to them provided people within the academic community and those outside it the opportunity to articulate grave doubts about the value of this achievement.

The American university as we know it today was substantially developed in the relatively short span between the founding of Johns Hopkins and 1900. This university fancied itself as the creator of new knowledge through research—"basic research." In such a university, not surprisingly, the teaching function concentrated increasingly on the protégés of researchers rather than on the undergraduates. In 1900 when the Association of American Universities was formed, there were fourteen charter members—eleven private and three public institutions—and they included almost all the centers of advanced graduate study in the United States. To those outside, these institutions appeared distinctive largely because of their athletic renown or other similar collegiate symbols of their undergraduate schools. (These symbols, incidentally, had been developed in the nineteenth century largely by students, frequently against the opposition of faculty, trustees, and presidents.) Given the prevailing ignorance about graduate education and research on the part of the financial and political leaders of America, even an institution like Johns Hopkins, which was only intended to be a graduate center, succumbed to the culture of the undergraduate. But within such institutions, the emphasis was increasingly on high quality graduate education and research.

The slow growth of numbers in higher education in the decades immediately after the Civil War had caused the university to develop at a modest pace. Beginning with the twentieth century, however, academic degrees began to be highly prized, and admission was increasingly sought. The number of degrees awarded between 1900 and 1920 doubled, and in the next twenty years, quadrupled. Mass education became a reality. At the same time there were also advances in the quality and scale of university research.

The $2,000 federal grant at the end of 1939 to Enrico Fermi, the nuclear physicist, opened a new period. It was characterized by increasing federal support, first to the physical sciences, and then to the life sciences, the social sciences, and, to a much more limited extent, the arts and the humanities. Additionally the large influx of veterans after World War II led many state officials to conclude that public higher education would have to grow immensely if these young people were to be accommodated in higher educational institutions. Private institutions were reluctant to expand, and many lacked the means to do so. Public institutions responded to the need and grew accordingly. In the late forties, a third of the students were enrolled in public institutions of higher education; twenty years later, two-thirds were enrolled in them. Public funds seemed available for high quality research as well as for mass education. Private giving was also on the increase.

The refugees from Hitler and, to a lesser extent, from Communism were no longer kept at arm's length, as they once had been. Bringing the best of European thought and scholarship to American universities, they helped widen the qualitative gap between the ablest American institutions and those abroad that at one time had been unrivaled in their excellence.

It would be foolish to assert that it was simply the Berkeley or other disturbances at American universities that burst the bubble of the research university's expectations of unmatched quality and of unlimited resources. Nor can disruption be properly charged with creating the disenchantment of the last decade. The new scale of mass higher education, quite apart from any other factor, was causing both public officials and private groups to scrutinize universities and colleges more closely. Also, the sheer scale of mass education necessarily produced conflict in a higher educational pattern where other forms of quality were constantly being sacrificed to research quality. The student eruptions, however, were the proximate cause which subsequently reinforced the usual resentment of the old for the young and turned police and other officials against social class groups on campuses whom they had had to protect in the past. Most of all, these eruptions uncovered the discrepancy between the often dreary practices of mass education and the splendor of quality graduate and research programs. The result, however, was not an improvement of mass education, but rather a leveling influence that has largely endangered quality.

The tension between mass opportunity for and quality of education can be benign. But in the decade since the Berkeley free speech movement, it has not been so. The extraordinary growth in numbers of students in higher education since World War II has been part of a complex social process. It was based on the assumption that cultural advantages, and not only political and economic advantages, ought to be shared by the many. Moreover, having half the young people of the country in some kind of schooling beyond high school created a dynamic of its own. No longer were college and university students a relatively small elite.

It was clear to many students in the sixties that blacks and chicanos were, to a disproportionate degree, excluded from higher education. This was also a time when the clothes, much of the speech and music, and the assumed spontaneity and licence of the poor minority ghettoes were adopted by middle-class white college and university students; to some it appeared that the higher the institution's status, the more rapid and responsive this cultural transformation was. The transformation included an acceptance of drugs and occasional violence, scorn of painstaking work and regularized activities, disdain for those in authority, sexual liberty, and apparent disregard for material goods, but not for such rewards as stereos, cars, and travel.

Some parallels with late-eighteenth and nineteenth-century European romanticism are clear. There was a similar concern with the limits of reason, the individual, the mystical, the exaltation of the senses. The earlier movement idealized the peasant and the native; its later counterpart concentrated on the poor and the black. But whereas the earlier romanticism helped produce Goethe, Schiller, Blake, Wordsworth, Coleridge, Byron, Shelley, Melville, Hawthorne, Berlioz, and Delacroix, this recent mood could not point to such achievements in the arts—in part, I believe, because the new romantics did not identify themselves with a sophisticated set of cultural forms. They tended to be so democratic that they considered the works of these earlier romantics elitist, a term they used pejoratively.

The tendency which came to dominance in the sixties and early seventies was a leveling one. The new levelers, like their progenitors in the time of Cromwell, were eager to extinguish privilege. But the romantic leveler was a far cry from his proselytizing Puritan ancestor. The latter-day romantic levelers did not attach themselves to the great artistic traditions or even the political iconoclasm of the past. If they read works on political dissent, they were more apt to be written by Fanon or Guevara than by Marx or Engels. Laing found favor before Freud, Vonnegut before Zola. Science, of course, was ignored. The contemporary dominated, and particularly a mass culture of television, films, illustrated magazines, and Sunday supplements to the press. Visual and aural content surpassed the written. High-culture figures of the late twentieth century were co-opted by the mass culture media, but rarely for the elevation of the latter.

In such a setting it is not surprising to find that the American university has been subject during recent years to an extraordinary leveling pressure, and one significantly tinged with romantic overtones. That same leveling pressure (though usually without the romantic overtones) had an unlikely parallel on the politically conservative right. New conservatives, like Ronald Reagan, were sympathetic with much of the critique of universities formulated by many vocal students and their young (and not so young) faculty allies. The "know-nothing" tendency on the right was matched by the fears of elitism among the angry young, who rejected a sense of the past and of honor distinctions, and indeed of all distinctions, such as subject-matter requirements. The demands of the young for education that was relevant, that dealt with contemporary problems, resonated with the common conservative view that education was too remote and impractical. The two groups differed greatly, however, over proposed solutions to any given problem. But, of course, it was easy for both worlds to unite against the neglectful professors and the professorial administrators; after all, "professor" had been a term of reproach in America for some time.

II. The Assembly on University Goals and Governance

Such was the prevailing mood when the Assembly on University Goals and Governance, sponsored by the American Academy of Arts and Sciences, was established in the fall of 1969. The 85 Theses of its First Report, issued in January 1971, essentially addressed the issue of how higher education might accommodate both quantity and quality. (The Assembly deliberately chose not to deal with dissent per se.) The challenge was to widen access to higher education without succumbing to the conventional wisdom of a generation of levelers whose inclination was to destroy the exquisite quality sometimes achieved by the American research university. The officers of the Assembly, however, did not use this particular formulation four or five years ago. We were too close to events, and the basic evidence surfaced only gradually.

In what follows I shall attempt to do three things. I shall outline how some of the Theses have been translated into reality. I do not pretend that there was a one-to-one relation between an Assembly thesis and an actuality; indeed, in many cases the Assembly was supporting reforms already emerging. In section III, I shall deal at length with an example of leveling just touched upon in the Theses—namely, the pattern of uniformity now beginning to pervade the large state systems of higher education (and the growing number of state coordinating councils). In section IV, I shall single out a few themes which, in retrospect, seem particularly important for reversing the leveling of quality or excellence.

From the Theses to Reality

Some of the Theses have been incorporated into educational practices; some have been accepted as part of prevailing thought among those who are most concerned about higher education; and some have been ignored. The forces guiding how and at what speed a concept becomes embodied in practice remain as mysterious for higher education as for other endeavors. The Theses which received the least attention were those dealing with the substance of education and, in particular, those which were most "anti-leveling"—that is, most directed to the improvement of quality.

The Assembly suggestions that have been adopted most widely include recommendations for eased access to colleges and universities, more flexibility in educational offerings, wider representation on governing bodies, improved internal structural arrangements, a new awareness of alumni and other adult interests in education, and some cooperation and pooling of resources among institutions.

1. When the Assembly called for a more encouraging admissions policy toward women in graduate and professional study programs, relatively few women were enrolled in the most prestigious professional schools (law, medicine, and business as contrasted to teacher training for the primary and secondary grades, nursing, and library work). Five years ago, for example, less than 10 per cent of entering medical school students were women, and women represented an even smaller percentage in the entering class in law. Now women comprise close to 20 per cent of the entering

classes in such graduate law and business schools as Harvard, Stanford, Chicago, and Pennsylvania. The women's rights movement, expressed politically through policies of agencies such as the Department of Health, Education and Welfare, as well as individually through career choices, has focused on professional education as an important means to status and high-paid jobs. Importantly, leaders of educational institutions were prepared to receive the applications of women and to respond rapidly in admissions. In the more traditional "masculine" fields of science and engineering, where female applicants are scarce, ways to encourage women are being sought. (This may mean, as M.I.T. has explored in conference form, recruiting and reinforcing girls in secondary school who have not yet learned that mathematics is unfeminine. Indeed, M.I.T. now has several times the women engineering applicants it had a few years ago.) Graduate and especially graduate professional schools, however, have not yet accepted the proposal expressed in the Theses that part-time study for women and others can be serious.

Over the past few years there have also been additional efforts to enroll blacks, Spanish-speaking, and American Indian students in institutions of higher education. (A puzzling development of the past year has been the slight drop in the enrollment of minority students.) The most neglected groups continue to be the poor of Slavic or Southern European origin and those who live in rural areas outside commuting distance. The "Open University" concept, developed in Britain and adopted in this country by New York State, and followed by Maryland, Rutgers, and other universities, is an attempt to reach motivated aspirants who can benefit from home study that is supplemented by televised instruction and occasional gatherings on a campus.

Educational access through such means has also improved for the older adult. Although admissions committees of the most prestigious, most heavily sought after institutions would probably still choose the twenty-five-year-old applicant for graduate school rather than the fifty-year-old, the older aspirant for further education has more respectable alternatives than were available five years ago. Also, many institutions are realizing that a dwindling college-age cohort makes older adults more attractive students, and they are beginning to adjust calendars and schedules in response.

2. When the Assembly recommended that there be more options between secondary education and higher education—that variations in timing be linked to individual maturation, motivation, and experience—the Vietnam war was still in progress, and young men, subject to the draft, felt compelled to go at once from high school to college. Now, the picture has changed; no longer is a young person considered a deviant if he seeks a change in educational pace. Some even argue for a mandatory break in formal learning, to allow the young person to mature and alter somewhat the pervasive questioning of authority characteristic of the adolescent since some acceptance of authority is a prerequisite to academic learning. Such a break might also give the student time to consider more thoroughly the educational direction he will take.

3. The Assembly advocated improvements in curricula for the benefit of both teachers and students, including the opening of professional courses to undergraduate students and the incorporation of arts and sciences instruction within professional schools. These recommendations were aimed at eliminating the academic and professional ghettoes which separate intellectual interests on a campus. Although there is no widespread move in this direction (Columbia University, the University of Pennsylvania, and some other institutions, have beginning programs in

operation), there are more and more examples of such changes as social-science instruction being offered medical students and pre-medical undergraduates. Such offerings express a sensed need for interchanges not only among disciplines, but also across professional, graduate, and undergraduate levels of instruction.

Another recommendation made by the Assembly and helped by affirmative action efforts which is no longer unusual in practice is that of advertising academic posts to be filled. *The Chronicle of Higher Education*, *The New York Times*, and learned journals now carry advertisements, almost to the extent that British publications do. This practice enables interested candidates whose qualifications may have been overlooked to bring them to the attention of institutions with openings.

4. The Assembly made a number of suggestions for improving university governance by delegation and accountability. Some of these, perhaps the simplest of the Assembly recommendations to adopt into practice, have become commonplace upon the campus. Without exception, for example, the governing boards of prestige universities have become somewhat more representative, providing seats for the young, the female, and the black to a greater degree than was generally contemplated even five years ago. There are announced limitations on certain administrative terms with review after a given period. There is also a greater division of labor within administrative staffs and in some cases within boards of trustees. Such sharing of responsibility is of greater necessity as universities and their problems become more complex.

5. The Assembly also set forth Theses promoting the diversification and differentiation of educational institutions. It believed that students who are diverse in aptitudes and aspirations need many different paths to education and self-fulfillment and that such diversity helps foster and protect quality. Although the Assembly pressed hard for these ideas, there are few examples of such change to which one can point today. One that stands out is the women's colleges. When several of them, such as Wellesley, Bryn Mawr, and Chatham, decided to remain colleges for women, they found legitimization in the First Report which counseled that women's colleges "ought not lightly to abandon their identity. . .particularly so when many coeducational institutions continue to be male-oriented."

III. *A Case of Leveling: The State Multi-Campus Systems*

The state multi-campus system may soon dominate American higher education with results possibly as troubling as those produced by the big-city school systems. An estimated 40 per cent of all students now attend sections of multi-campus institutions, which are overwhelmingly public, while three-fourths of students in public universities are enrolled within groups of campuses under common governance.

Multi-campus state universities, as pointed out by Eugene Lee and Frank Bowen in their study for Clark Kerr's Carnegie Commission, developed either as consolidated systems aggregating previously existing campuses under a new central administration and governing board, as in New York State, or as flagship systems that extended established campuses, as in California. Even where multi-campus systems have not been created, there generally are coordinating councils or similar agencies concerned with all of higher education and particularly with its public sector. (Some were set up to take advantage of federal legislation.) State-wide control of public higher education was initially promoted to avoid multiple budget negotiations between separate institutions and state legislatures and to minimize harmful competition; but a bureaucracy, once established, is often self-breeding.

Statewide requirements governing admissions and the awarding of degrees are becoming more extensive throughout such systems. There are statewide rules that control operations of teaching programs and, of course, centralized procedures for deciding a multitude of issues, ranging from the hiring of staff and technicians to the purchasing of equipment and furniture. To a degree not fully grasped by those focusing upon on-campus issues, institutional autonomy has been reduced state by state. To a great extent, power has shifted to off-campus administrators and governing and coordinating boards.

Advocates of the multi-campus university argue that the system provides a "buffer" between the campus and external political pressure. But often it has functioned as a conduit for such pressure rather than as a buffer. Advocates also contend that experimental programs have more chance to prove themselves because the system as a whole is shielded from conservative thrusts of state legislators and pressure groups. Only in a very few cases, however, have major new programs and new campuses been established outside the conventional mold.

Clearly the growth in the scale and power of the multi-campus system has escalated the political stakes in many educational issues. Officials of state systems have a vested interest in preventing embarrassing incidents, whether they be the hiring of controversial professors or campus disruptions. As state boards find their deliberations followed closely by the media and state-wide administrators see themselves cast in public roles, educational leadership all too easily yields to political prudence and timidity. Mediocrity, under the guise of accountability, often results.

State controls are being extended to the substantive goals, policies, and programs that an institution pursues and to the procedural techniques selected to achieve those goals. These procedural controls have often proved to be more a hindrance to good management than a necessary safeguard of the public interest. The Newman Report published by the United States Department of Health, Education and Welfare stated:

> While coordination, rational planning, and the elimination of waste are important goals, centralization is often pursued in areas where its benefits are illusory. It is difficult to believe that decisions regarding the choice of a particular new course at one campus, policies concerning student newspapers, or rules governing the behavior of students need to be made centrally except as a response to political pressure.

Political factors may not be omnipresent in every state decision regarding multi-campus systems, but, as Robert O. Berdahl points out in *Statewide Coordination of Higher Education*, the "state stands to lose far more through the diminished creativity and attenuated vitality of an overly controlled institution than through the relatively small gains that might be saved through the imposition of a tight pre-audit of expenditures."

One of the pernicious, if unintended, consequences of the multicampus system is the threat it poses to the cohesion of individual campuses. As the Newman report observes, "the constituent members of the campus community—students, faculties, administrators, trustees—are encouraged to organize themselves 'horizontally' across the system and bargain at the state level for their special interests."

The City University of New York union contract, for example, created a single academic salary scale covering—in a virtually automatic pattern—all faculty from the community college to the graduate center. This egalitarian remuneration makes little distinction between levels of teaching, research, or merit. Such uniform salary scales are replacing the process of evaluation based on merit central to the academic advancement system with a system of semiautomatic promotion. This monolithic approach to faculty remuneration has a leveling effect; it is difficult to maintain quality when rewards are not made selectively.

An analysis of faculty salary statistics over the past decade, published by the American Association of University Professors, indicates that the gap is narrowing between average faculty compensation at auxiliary campuses and that at the main campuses in state systems. During the past several years, the annual rate of increase has been greater on the auxiliary than on the main campuses in the system. For example, faculty on the Madison campus of the University of Wisconsin received, on the average, a 29 per cent increase in compensation between 1969 and 1974. During the same period, the average faculty member on the University's auxiliary campuses received a 48 per cent increase in compensation. At the University of Minnesota, the increase in average faculty compensation between 1969 and 1974 was 22 per cent, while the average increase on the state college campuses was 40 per cent. The average faculty compensation at the University of Texas increased 18 per cent between 1969 and 1974; at the auxiliary campuses this increase averaged 38 per cent. To view this narrowing of the compensation gap in another way, the mean compensation at Wisconsin's auxiliary campuses was 80 per cent of the average faculty compensation at the Madison campus in 1969; but in 1974 the mean compensation at the auxiliary campuses was 95 per cent of the average faculty compensation at Madison.

Historically, a rather complex pattern of tracking by quality has been characteristic at both secondary and collegiate levels in public institutions. But pressure for egalitarianism had made this kind of tracking less and less possible within schools and among schools. A pervasive uniformity has eroded nodes of quality, resulting in a kind of regression toward the mean. Distinguished secondary institutions have become essentially indistinguishable from other schools. As Thomas Sowell points out, Dunbar High School in Washington, D. C. was an academically elite school for blacks for 85 years (1870–1955), ranking first for more than 50 years in city-wide tests given to pupils in both black and white segregated schools. Its graduates have been among the most accomplished citizens of the land. But when the desegregation decision of 1954 caused a reorganization of Washington schools, Dunbar, which had drawn its pupils from all over the city, was forced to draw only from its immediate neighborhood. In a few years, without self-selection mechanisms for students and teachers, it became a mediocre school.

Similarly, in New York City, the four specialized, competitive, and high-quality high schools drawing pupils from throughout the city—Brooklyn Technical High School, the Bronx High School of Science, Stuyvesant High School, and the High School of Music and Arts—are being whittled away (Townsend Harris High School was eliminated years ago). These schools (whose graduates of varied racial and ethnic backgrounds have done brilliantly in college and subsequently) can no longer seek out, because of current union contracts, teachers with special abilities. The charge of elitism is now raised each year against the student-selection process in these schools. If student as well as teacher selectivity is abandoned, so too will be the nurturing environment for those who excel. In similar fashion, public institutions of higher education with intellectual distinction are in danger of losing their special qualities in sprawling systems.

The City College of New York once devoted itself to some of the area's best young minds, but it has now lost its qualitative edge. It may have gained something else in reaching out to those who have been educationally disenfranchised. Nevertheless, it is hard to imagine that the City University system in New York will not suffer from the loss of the standard of excellence which the City College once represented.

If this analysis is correct, American universities—particularly, the public ones—that have achieved distinction as centers of research and scholarship are in danger of losing the strength and vitality they have built up over the last few decades. Moreover, most public universities and colleges face serious fiscal problems partly because of the more competitive position in which they find themselves vis-à-vis other governmental priorities. (In most states the proportion of the budget going to higher education is declining.) At the same time, a sharp contraction in the financial resources necessary to maintain quality also threatens all private institutions and especially those that have high standards of excellence. (Excellence might not always require more resources, but it can rarely be achieved with less.)

The central administration of the University of California seeks nine comprehensive educational centers. In the past, building on the preeminence of Berkeley, it was able to help build excellent schools in Los Angeles and San Diego as well as a distinguished health campus at San Francisco. It is questionable, however, whether the other five campuses can become graduate-research centers without hurting the preeminence of the existing centers and of Berkeley in particular. Funds are simply not available for such an across-the-board qualitative achievement

There is already evidence that Berkeley has suffered certain baleful consequences as a result of resource dispersion. Berkeley's student-faculty ratio is now up to seventeen to one. It will be able to maintain its distinguished set of graduate and research programs, which by necessity require a low ratio of students to faculty, only by making its undergraduate programs more remote from the faculty. In other words, it must increase the impersonal character of its undergraduate education. The size of sections in required freshmen courses has already been raised by an average of 5 per cent at Berkeley, even though large class sizes were given as one cause for the student disturbances there in the sixties. Berkeley has certainly not lost its qualitative edge. Nevertheless, as pressures continue to build for the equalization of California's nine university campuses (and the even larger number of state colleges, now renamed universities), further "inconsequential" cutbacks might precipitate a downward slide.

Some of these pressures are rooted in political geography. How can the state ignore Orange, Santa Cruz, Riverside, Irvine, and Santa Barbara counties in which there are university campuses? How can it ignore the even larger number of counties with renamed state colleges? Other pressures come from within the educational system itself. It is always easier for administrators to deal equally with their claimants; fewer quarrels result. The conviction that one has dealt "impartially" with one's constituents may even provide some psychic satisfaction. In any case, the embattled administrator is continually being pushed to institute equal salary scales by many faculty and staff who endorse the central administrators' claim that they are all members of the same institution albeit located on different campuses. Moreover, alumni can be powerful lobbyists, and in a multi-campus state system, alumni from the newer campuses push for equal treatment for their schools.

Equality, of course, is a shibboleth in our country, and in questioning its universal applicability, one runs certain risks. But the nation's great research universities attained their preeminence by merit. If the basic structure of the system is to be arranged so that contingencies work only to the advantage of the less favored institutions, there will be downward leveling. It seems clear that general equalization of budgets and salaries as well as admissions will lead to mediocrity.

Moreover, the leveling process is accelerated if states have a central authority coordinating higher education. In New York State, where the State University operates both university centers and state colleges, allocations for instruction and research per full-time-equivalent (FTE) student are only $449 higher for the graduate university centers than for the undergraduate state colleges. The differential of $449 should be compared to a differential of $2,267 per student between graduate and undergraduate centers in California, which are not yet under a single higher educational authority.

These data are presented with the conviction that budgetary allocations for instruction and library operations need to be considerably greater at research universities than at undergraduate colleges. Over the years Berkeley has managed to achieve a resource base per graduate student that almost equals that at Harvard. Without such resources, there surely will be an erosion in the quality of Berkeley's graduate education and of its related research. Also, for the great centers of scholarship and learning to compete effectively with government and industry for professional talent, the salaries paid faculty at these institutions ought to be higher than those paid at four-year schools. (Salaries may not provide the most important incentives for professors, but they are important.)

By definition, most public institutions favor state residents in their admissions policies, but in recent years many have had to deal with mounting political pressure to exclude or at least limit much more drastically out-of-state students. (While not wholly immune to such pressure, especially in the case of professional schools which receive state funds, private universities by and large have greater freedom in the selection of students regardless of geographical origin.) If present trends continue, the growing geographical insularity prescribed by states for public universities will be damaging to the cosmopolitanism certain campuses had so magnificently achieved.

Although special efforts must be made to compensate the educationally disenfranchised for opportunities denied in the past, a clear relationship exists between high quality and selectivity of students. It has frequently been suggested that California abandon its three-tier admission system (the top eighth to the universities, the top three-eighths to what had been the state colleges but are now also titled universities, the rest to the two-year colleges) and open every public institution to any high school graduate or eighteen-year-old seeking admission. (See, for example, the Report of the Joint Legislative Committee on the Master Plan for Higher Education.) Thus far such a policy has been rejected, but in doing so, responsible officials have had to face charges of elitism leveled by those who would substitute a new ascriptive principle of equal representation for placement judgments made on the basis of individual promise or achievement. An odd coalition drawn from both left and right sees no reason why a Berkeley in California, a Madison in Wisconsin, a Stony Brook or a Buffalo in New York State should have more selective admissions, fuller libraries, or more nationally competitive professional salaries than the state campuses.

Boards and administrations distant geographically and in other ways from local campus affairs make decisions—often detailed ones—for the institutions over which they exercise jurisdiction. Worst of all, however, are the leveling influences, which work almost exclusively in a downward direction. The tendency is to share scarce resources equally among campuses. If this general trend continues, libraries will be equalized, admissions common, and salaries uniform. Indeed, there will be little reason other than location to choose one campus within a state system rather than another.

This prospect is considered ideal by many, including a considerable number of students and faculty, whether or not their campuses stand to gain in quality from such policies. It is also the safest policy for political officials who do not want to appear to favor one region over another or to have their constituency receive less than another. If this assessment is correct, it will be extremely difficult to reverse the trend. Yet not to reverse it will lead more and more to that leveling of quality experienced by higher education, for example, in Italy and France where a civil service mentality in national systems of higher education has been so detrimental.

Thus, I am issuing an early warning—perhaps not early enough--in the hopes of halting the leveling process. (In the case of big city school systems, precisely such a process resulted in the demise of quality secondary schooling.) The most important immediate step is to end the move toward state centralization. Unfortunately, many in universities have a penchant for tidiness and a deceptive idea of equality that lead first to the acceptance of a single agency or mechanism for administering colleges and universities and then to measures for equalizing salaries, libraries, admission standards, and academic programs. But my hope is that enough concern can be created to generate pressure against further centralization. Certain outstanding state institutions should be recognized as national resources and even cut loose from their state systems. The University of Michigan, for example, now enjoys considerable autonomy and may as a result become the leading state university in America.

Given the financial press on private institutions as well as the internal logic of the great state systems, our major research universities are in danger of becoming mediocre. We may witness the dimming of the intellectual luster of schools that in open competition became the greatest resources for knowledge in the history of the world. The current political, economic, and social climate may force these institutions to withdraw from the cutting edge of creative scholarship at a time when new knowledge is more critical than ever before to our society.

IV. *Retrieving Quality*

The rise of the American university as a research institution capable of producing work of extraordinary quality was paralleled by the emergence of a pattern of mass higher education involving close to ten million students and a million faculty and supporting professional staff. Most of these students and staff are unaware that the knowledge base on which they must depend is provided by perhaps fifty favored institutions.

I have argued that, during this last decade, the rise of leveling tendencies within the nation generally and on the campuses in particular has led to a peculiar symbiosis. Angry young people whose political sympathies lie mostly on the left have joined angry political leaders and citizens of rightist persuasion in the belief that teaching—especially undergraduate instruction—has been neglected in favor of research and advanced graduate study. (Indeed, they consider levels of graduate study excessive in light of estimates of future demand made by Allan M. Cartter and others.) Both groups hold to the populist notion of large numbers, and both are attached to the concept of "relevance" in education, though each defines the term differently. Had there been less disillusion and hostility embedded in their critique of higher education, the heavy pressures for leveling might have resulted in more leveling upward. Such an inclination exists—as, for example, when those in former normal schools wish their institutions to be escalated to graduate centers.

The core of the 85 Theses dealt with qualitative improvement. If we are now in a quiescent period with respect to higher education—one more like the late nineteenth or early twentieth century than the turbulent years just past—then perhaps the Theses can continue to serve as an agenda for a thoughtful reform of universities and colleges. The present tranquility may also create a climate auspicious for profound reflection on the scope and the quality of higher education.

With this in mind, I discuss in the following parts of section IV three addenda to the Assembly Theses. The first, on national universities, in a sense continues the section on state systems and suggests how foundations and other private sources and the federal government might maintain and enhance a limited number of institutions that have the mission of adding to new knowledge. The other two—one on a renewed relationship with secondary education for colleges and universities, the other on the professoriate—are based more on the premise of the Theses which were singled out in the first section; namely, that the biggest challenge to colleges and universities is not how to get more funds from the federal or state government, but how to help themselves in new and imaginative ways for which funds are not the primary limiting factor.

The National Universities

The two great achievements of American higher education have been the extension of higher schooling to a greater proportion of young people than at any other time or place and the development in the last three decades of a few dozen centers of extraordinary distinction. Indeed, it is hard to imagine a list of the world's twenty-five or thirty great universities which would not have the majority in the United States.

Yet that level of achievement is in jeopardy. With research and advanced graduate work as costly as they are, the most prestigious American universities are suffering from cutbacks in federal support (including support for advanced students). Nor is private and state support keeping up with rising costs of equipment, books, utilities, and staff assistants. While many research universities are retrenching in their advanced programs, institutions less able in advanced work are pursuing graduate students who will be supported by teaching introductory courses for large numbers of undergraduates. Extending equality across a continent has been a great American accomplishment in education. But in the past it was done in a setting which preserved and enhanced the institutions of highest quality. That is not the case now.

To counteract the leveling tendencies which are affecting the highest quality institutions (particularly the research centers), twenty-five or more universities and institutes of technology ought to be designated as national centers, drawing their support and students from throughout the United States. Clearly they should not be designated in a fashion which would freeze them in favored status for all time. Alan Pifer, president of the Carnegie Corporation, made a similar proposal in the sixties, when he called for a federally funded system of national universities. His recommendation was received coolly on the ground that it would be too difficult politically. (This federal approach might itself also quickly acquire the problems of a big state system of universities.)

In a paper published by the American Association for the Advancement of Science in 1971, Allan M. Cartter also urged the federal government "to identify a category of 'national universities,' perhaps 75 to 100 in number, and guarantee certain minimum support levels for graduate education, research and student aid." He added that should the task of identifying institutions appear to be "too difficult or too politically explosive," a workable alternative might be to select 50 to 75 departments from each of the major disciplines and provide federal funds only for those most eminent in any single institution.

Given the increasingly interdisciplinary nature of research, departmental support may be the wrong approach. Yet the designation by the federal government of a limited number of institutions dedicated to the advancement of knowledge flies in the face of past political practice. (The Federal Model Cities program, for example, was intended as an effort in which a few cities would be selected as examples of how government action could drastically improve urban life; it was transformed almost immediately, however, into a program in which support was divided among most cities. As a result, resources were spread too thinly for substantial improvement anywhere.) Congressional approval is most easily won when a proposed program is shared by all Congressional districts or, at the least, by all states. Many states do not have private or public institutions of higher education which could or should be designated as major national resources.

Nevertheless, the time has come to attempt to persuade the President and Congress that certain institutions are significant national resources and ought to receive special federal financing. One desirable way to start would be with a federal fund of 10 per cent of the research and other grants provided to universities and colleges. Presently there is hardly a one-to-one ratio between the amount of federal support and the quality of an institution's research. Yet a 10 per cent award would give several million dollars a year to each of a number of distinguished institutions, and few states would go without significant support.

It can be argued that funds for general institutional support will not accomplish the desired aims and will be used for paying deficits. But such deficits frequently represent a line against greater losses in quality. In other words, financial deficits are incurred in universities after they have cut back on junior faculty appointments, deferred repair of plant, frozen student aid, reduced the number of graduate students, and lowered the rate of library accessions—and they are incurred to avoid further qualitative loss.

Sometimes the federal government provides support more readily if foundations lead the way. Thus, a major effort should be made to convince foundations that they make a grave error in not generally supporting, as they have in the past, the major public and private research universities. Many philanthropic organizations, following the lead of the Ford Foundation, are concerning themselves mostly with action projects, while the knowledge base of the nation—on which such projects depend—is in danger of erosion. Twenty-five per cent of the annual giving of major general purpose foundations would provide over a quarter of a billion dollars a year—a sum that could have enormous impact on selected research universities and still leave the foundations with most of their resources for other programs. Even if the foundations should conclude that they do not wish to make across-the-board institutional grants, they could, as a group, decide to assist broad subject areas, such as the humanities, the natural and social sciences, or key professions at various institutions.

If the foundations were to follow this recommendation and the federal government were to provide the 10 per cent fund suggested, the national corporations might also see that they have an obligation to support this limited number of universities. It is difficult to imagine an aim of greater significance to our national future than support of those national resources that create the basic knowledge on which our economy and entire society depend.

The Adoption of Basic Education by Universities and Colleges

The last Thesis of the 85 in the Assembly's First Report called for universities and colleges to accept responsibility for helping primary and secondary education. This Thesis was placed *last* with the thought that it was quite difficult and yet extraordinarily critical.

It would be hard to point to major new achievements in this area with respect to secondary schooling over the past ten years. Schools of education have continued to work with school systems, but the gains have been in primary education. The universities ought, however, to concentrate their efforts on the secondary schools. The rudiments of reading, writing, and arithmetic are conveyed to most (though, alas, not to all) in the primary schools. But the preparation for further education is most deficient in the secondary schools.

Even in the most selective universities and colleges, undergraduates often arrive unequipped to write a paper because they have received no instruction in sustained writing (as they would have in many British grammar or public schools). Similarly, with the exception of such schools as the Bronx High School of Science, boarding schools like Exeter, and certain suburban schools, it is practically impossible today to receive a high-level secondary school education in mathematics and the natural sciences (as one can in a German *Gymnasium*). Furthermore, almost no American students are exposed to important philosophical texts and questions during their secondary schooling, even though young persons at this age are often intrigued by issues of values, ethics, and belief. (In a good French *lycée*, such exposure would be possible and even required.)

European secondary education should hardly be the standard for America; and, indeed, the European schools appear to be declining significantly. Yet the American situation is serious. It is said that students from economically disadvantaged backgrounds require remedial work. Unfortunately, those from economically advantaged backgrounds are frequently so educationally disadvantaged in their secondary schooling that they also need remedial work.

The cooperation with the schools called for in the First Report is desirable. But much stronger action is demanded since in many basic education systems there is no one with whom such cooperation can be established. It is hard to evaluate any complex bureaucracy, but there appears to be an overall decline in capability among secondary school teachers despite the influx of some able young teachers. Scientists and mathematicians, for example, have been able to find careers of higher status (and often higher pay) in industry and government, as well as in colleges and universities. Moreover, careers as elementary and secondary school teachers, though much improved economically, have carried the psychic costs of big-city school violence, suburban school insouciance, and bureaucratic rigidities.

Therefore, I have two proposals. The first is that colleges and universities begin accepting many students after two years of secondary schooling. The able student at all but a few American secondary schools will waste his or her time in those last two years. I happen to believe that the situation is worse in the secondary schools than it was a generation ago. (At least then there were distinguished secondary schools that were singled out from the secondary-school universe for special attention. Boston Latin School was an example, but the pressures of the new egalitarianism have made it today much more like the other Boston high schools.) But even if my contention that the schools have been worsening is wrong, this direction would be sensible. Inadequate previous preparation has plagued higher education for a long time.

In making this proposal I am not necessarily saying that the length of time devoted to formal education could be reduced by two years. But it certainly could be reduced, and more efficaciously than by cutting a year from the bachelor's degree. (Incidentally, the notion that a degree should be awarded for a fixed number of years of attendance or a collection of semester credit hours is nonsense; it ought to be a mark of achievement and not of perseverance alone.) The principal aim is for young people to exploit fully their capabilities in mastering or understanding a range of subjects and their methodologies. Even with all the limitations of collegiate teaching, such a process can best take place in institutions of higher education, as can the igniting of new and future interests.

My other proposal is that colleges and universities return to running preparatory schools. They probably gave up running schools for two reasons, in addition to the expense. The first was pride. Because many American institutions of higher education had their origins in academies, maintaining such instruction was symbolically threatening. The second was that these schools were often run by faculties of education as training grounds for their students. It is fashionable to malign schools of education as being primarily concerned with procedure rather than substance or even the process of teaching. This conventional view is an exaggeration, but basic education programs run by faculties of education have nevertheless rarely provided any advances over other schools.

I would urge that major colleges and universities run schools, perhaps concentrating on the seventh to tenth grades, but not restricted to faculties of education. Such schools would be intended as models not of teaching methods, but of substance. Children in such schools would be expected to achieve fluency in their native tongue (including that rarity, writing it well) and in another tongue (along with the literature and culture associated with it), as well as in mathematical communication sufficient to become literate in the natural sciences and the quantitative social sciences. They should be conversant with the benchmarks of Eastern and Western cultural and diplomatic history as well as some of mankind's great texts and musical and visual accomplishments. As a means of enriching curricula, I envision lectures, supervision, and other participation by professors willing to contribute to the edification of the very young.

Such schools would set standards for other schools. But they would also be educating substantial numbers of students. I have not dealt with their finances; some would have to be privately financed. The number of families considering private education is growing. The financial problems would be small if chits were made available by government for families to use in alternate school arrangements such as the one proposed here. (A national experiment with chits is currently underway.)

The Academic and the Intellectual Modes—Remaking the Professoriate

Until the Civil War, the American professor was usually a clergyman turned schoolmaster and his charges were very young, while most curricula consisted of the narrowest combination of the study of the classics and mathematics. Henry Adams would write in his *Education* that it was a wonder his formal education at Harvard (class of 1858) did not ruin all participating in it.

When the scholarly university began to develop, the professor came to see himself less as a schoolteacher and more as a scholar-scientist. A fair number of scholar-scientists in those days had far-ranging intellects. Sometimes persons with such minds had the greatest difficulty getting placed. Thorstein Veblen is a case in point; he wandered from Chicago to Stanford to Missouri, with never a major post.

By the end of World War II, the notion triumphed that the professor need be competent only in the narrowest possible subject matter. In the competitive atmosphere of the academic marketplace, a specialty shared by almost no one else placed the scholar in a favored position. When Cornell opened in 1868, it was with an injunction from its patron, Ezra Cornell, to be "an institution where any person can find instruction in any study." This department-store model became widely admired, but could only be fully accommodated in the mid-twentieth century when funds were plentiful.

Emile Durkheim, in his great study *The Division of Labor in Society,* pointed out how work in an industrial society metamorphosed into tasks so narrow and limited in scope that, though productive aims were furthered, an extraordinary disorganization and separation (he called this 'anomie') resulted. There was little sense of the social function the work was serving or of how the specialized task related to the rest of the work assignment. This alienation may not always have been apparent to the workers, but their activities had little meaning.

Durkheim was discussing industrial work, but academic efforts have been moving in the same direction. Even at tutorial institutions such as Oxford and Cambridge, it has become difficult to read economics or biology with a tutor. Now the student must choose price theory or the study of the cell. All the pressures continue to cause those who wish an academic career to be as narrow as possible in their graduate studies and in those years that lead to a permanent appointment.

The intellectual mode, as contrasted to the academic one, ought to encompass both academic specialization and the breadth that can relate that specialization to cognate knowledge and theory. It also requires knowledge of past and present civilizations, as well as an understanding of basic methods of the sciences and the humanities.

The intellectual mode is necessary for the most vivid learning. Students cannot reasonably be asked to synthesize and integrate knowledge on their own. They need as models teachers who are educated persons. It is a rare university today (and a rare liberal arts college as well) where more than a small fraction of the faculty can be regarded as intellectuals rather than academics. Such a situation harms the research function as well as education (and not only the education of undergraduates). Many kinds of significant scholarship are not even conducted because researchers do not possess a broad enough scope to raise the relevant questions; such issues often transcend the professor's own narrow expertise. Frequently scholars cannot even converse with their colleagues in other departments. And, unfortunately, their graduate students become replicas of them.

That American academic invention, the department, developed largely at the turn of the century and performed an extraordinarily valuable function. It not only mediated between the professor and the institution, but, more importantly, it provided the link to the national guilds that were defining standards and expectations for the disciplines. At first these standards and expectations aped those that had been formulated in Europe. But as Nazism and then war put academic Europe into eclipse, American universities became the standard-bearers of higher education—particularly in the newer fields, but also in the traditional ones. And it was the departments that jealously guarded and furthered American achievements.

Today these functions are still required. Given the greatly expanded size of universities, institutional affairs could not be conducted without departments to serve as intermediaries. But departments pose two sets of problems. Sometimes the subject matter they superintend was defined seventy-five years ago, and that definition may have little applicability currently. Constant review is thus needed. More significant is the overwhelming tendency for departments to replicate themselves. Since the model has become one of narrow specialism, only narrow specialists pass muster as candidates for new appointments or promotions.

What is needed is a recruitment and advancement pattern that operates on a university-wide basis (or for a sector of the university such as the humanities) *and* on a departmental one. Whereas the departmental focus will be on specialized academic talents, the university focus ought to be on intellectual breadth, on those capacities that relate a specialization to cognate areas and include a reasonable comprehension of man's civilization. Unless the academic mode gets bonded to the intellectual one, both university teaching and research will be far short of their potential.

In review, then, how can the tendencies toward leveling in the quality of higher education be reversed?

Many Americans, however disenchanted they may now be with higher education, have come to view it as both a secular church—the institution through which they can see worked out many of their most idealistic tendencies—and a semi-political institution through which some of their dreams for a new democratic reality can be accomplished. The conflicting ideals of equality for all and achievement for everyone have helped lead to the leveling we see in education: the assurance that no one is more equal than others.

Equality and the reversal of leveling should come about in other ways. The most efficacious way is perhaps the most difficult to achieve: it would be to shift some of the political burden of equality to other areas of the society. If political representation, jobs, housing, health care, and early schooling were made more manifestly "equal," there would be less pressure upon colleges and universities to be "equal" or to serve as equalizing instruments. If educational leaders and their counterparts in other institutions throughout the nation were to agree, for example, on the necessity for equality within large areas of the job market, they might be able to stimulate unions, employers, and civil rights organizations into opening access to skilled jobs to women and minorities, the groups most obviously discriminated against.

Within higher education itself, I believe that the tendencies toward leveling can only be reversed by once again stressing pluralism as the American path to equality. Diversity, it should be recognized, is significant not only for quality, but for reinforcing mass education. Only through diversity can education for many millions be effectively based on individual differences so as to insure that each person reaches his or her particular potential. Over time we have developed unconsciously a division of labor among institutions of higher learning. The rough distinctions were known to those attending the schools, to those working within them, and very likely to those supporting them. No one inside California, or outside for that matter, confused Merritt Junior College in Oakland with Mills, or Mills with Stanford, or Stanford with Davis. Yet there was a certain respect offered to all. Distinctions, too, may have been glossed over because the reality of each institution was not fully comprehended, or because the American dream of some education for many was being achieved, or because education until recently was not seen as a crucial social and economic component of the nation. The important characteristic to note is that the distinctions which were known were not considered invidious. But when a variety of forces converged to cause institutions to be more and more similar to one another, they began to envy one another's salaries, budgets, and physical accoutrements. As a result, considerable pressure developed to erase distinctions. On the most elementary level, a greater degree of equality of experience can be achieved through more homogenized education than through differentiated education. But in the most important ways—those giving each individual a setting in which to develop individual tastes, interests, and talents—homogenized education reduces equality. Students must find and develop themselves in many different ways: some in small liberal arts colleges, some in state universities, some in private research universities and some not in higher education at all. They must discover the specialized community best suited to them and their talents.

Equality through pluralism will permit enlargement of choices and thus the enhancement of quality. At the same time it can also serve to reinforce mass education. Equality through pluralism will not eliminate distinctions, but status distinctions can be reduced if they are treated in a more matter-of-fact (and less envious) fashion. If there are to be national research institutions with special subventions, as I believe there must be to preserve the quality of all education, then they need to be identified as such, but not proclaimed as the only desirable places to attend. Distinctions should be made on the basis of institutional purposes.

There are more than 2,500 institutions of higher learning, and differentiation is essential, although policies that would encourage it are difficult to fashion. I have suggested a 10 per cent addition to federal funds for education, to be distributed among the national research universities to strengthen quality research and advance education. I have recommended a moratorium on state multi-campus systems and state coordinating systems to dampen the pressures for conformity. I also believe that foundations and governments should grant funds for curricula rethinking and reform—not on an individual campus basis, but for a limited number of institutions jointly to explore options which are congruent with their educational capital and objectives. I have particularly in mind the joint exploration of the relationships between the arts and sciences and the professional curricula.

There undoubtedly are many other ways to encourage differentiation and equality through pluralism. There are other paths, too, to reinforcing mass education, although none I think so effective as working for equality through diversity and its concrete recognition. Educators and those concerned about education ought to devote concentrated efforts to devising policies that enhance not only the qualitative strengths of our great educational achievement, but our American dream of equal opportunities as well. That is no small challenge.

The Assembly on University Goals and Governance

These Theses, originally published in January 1971 as A First Report of the Assembly on University Goals and Governance, were written by a committee chaired by Martin Meyerson and Stephen R. Graubard. They followed extensive deliberations that took place over fifteen months, and that involved a very substantial number of people drawn from all the major constituencies both inside and outside higher educational institutions.

A debt is owed to the Panel of Academy Advisers, listed in the front of this volume, who reviewed the Theses for their publication.

Introduction

IN SEPTEMBER 1969, the American Academy of Arts and Sciences established the Assembly on University Goals and Governance. The Assembly in its Prospectus of November 1969 indicated that it would seek to explore, develop, and help implement alternative approaches for resolving certain of the principal issues affecting colleges and universities today. A series of questions was asked; none of them admitted of simple or universal answers applicable to all institutions. Individuals and organizations with very different conceptions of higher education were asked to help in a wide-ranging inquiry. It was expected that discussion of many options would lead to the formulation and implementation of plans for reforming and restructuring higher education at particular colleges and universities.

The work of the policy councils has made it obvious that certain of the original questions have evoked considerably greater interest than others. Now, more than a year after its establishment, those principally responsible for the work of the Assembly, continually aware of how difficult their charge is, have set forth a number of policy propositions prompted by certain of the questions and the deliberations and criticisms they stimulated.

The Theses which follow, some manifestly more important than others, relate to the goals and internal organization of universities and four-year colleges, and only to a lesser extent to the proliferating two-year institutions. Other policy suggestions will be included in forthcoming special reports; these, by intention, will sometimes suggest different approaches than do the Theses. Institutions as well established as the colleges and universities of America cannot be remade by fiat or formula. The theses in this first report, those that are general and those that are specific, are in no sense all-inclusive. Their aim is to provoke discussion and testing. If they serve to stimulate trustees, faculties, presidents, students, staff, alumni groups, and those public officials and citizens concerned with higher education to look at colleges and universities more critically, and if these deliberations help to bring about improvement, they will have served their purpose.

The Theses have not been arranged under subheads. However, the following themes are laced through and assumed within the entire set of Theses:

1. *Learning: The Central Mission.* Like other complex institutions, colleges and universities have varied purposes. Foremost among them must be learning—learning

that takes place between student and teacher, student and student, teacher and teacher, and between these and the staff, alumni, and citizens concerned with intellectual and professional pursuits. Research—important as it is—and public service are appropriate to colleges and universities when they contribute to learning, its advancement as well as its transmission and utilization, and are consonant with those academic freedoms on which learning depends. To say that the theses emphasize learning as the goal to which governance should be directed is not to be nostalgic or romantic about the past but to assert a purpose that has not been sufficiently central in the past or in the present.

2. *Knowledge as a Basis for Educational Reform.* To improve and reform higher education—not to calm dissidents but to achieve the potentialities of colleges and universities—a kind of knowledge is required that does not now exist. Many in institutions of higher learning are prepared to scrutinize almost everything—the natural environment, government and industry, all manner of other institutions foreign and domestic—but they are loathe to scrutinize themselves and the institutions they inhabit. If reform is not to be mindless, knowledge and data are needed on the character and effects of present educational and research programs. It is essential to know more about how decisions are made and executed in colleges and universities, and how the successes and failures of innovations are communicated so that others may learn from the experiences of those who have experimented with new approaches. Institutional self-study is desirable; it does not suffice for presidents and administrative staffs to be interested in such matters. The methods, content, and philosophy of education need to become a more vital interest of many professors, staff and students.

3. *Admissions and Attendance: Extending Choice.* Colleges and universities ought to be open to those who are able and ready to benefit from association with them; this implies that those who attend choose to be there. Any arrangement that seems to enforce attendance, that causes some to believe that they are coerced into attending, violates the spirit that ought to prevail in these institutions. Men and women of all ages—and not only late adolescents and young adults—need to think of the college or university as a place they can turn to if they can benefit from the kind of learning environment that it provides. There are many matters that can be taught in modern society outside the university; there are some that can be taught only inside the university. An obligation of all institutions of higher education is to define more clearly what their particular educational strengths and criteria for admission are, so that students will know which educational opportunities are available where. These institutions should help employers and others to see that there are other ways of certifying many employment capabilities than through college attendance alone.

Some young persons should be encouraged to defer higher education; some may prefer to avoid it altogether. Young persons should be confident that they will be welcome as mature adults. The obligation in our society should be to encourage those of low income or of ethnic and racial groups previously denied higher educational opportunity to obtain admission if this serves their aspirations and talents; the education of women and adults generally should have higher priority. When higher education ceases to be regarded as the unavoidable prescription for young persons and becomes instead the considered choice of men and women of all ages, voluntarism in relation to admissions and attendance will grow.

4. *Experimentation and Flexibility in Undergraduate and Graduate Education.* In the last few years undergraduate requirements have been reduced, but few major curricular innovations have been instituted. Grading has been tempered or, in a few instances, virtually abolished. Course loads have been reduced; independent study has often been substituted for traditional courses. Distribution requirements designed to achieve some breadth in undergraduate education have been seen as so naïve at various institutions as to risk abolition. With the failure of nerve of many faculties, few alternatives for a liberal education have been conceptualized, let alone implemented. Undergraduate programs continue to provide degrees on the basis of credit hours completed and compiled. Graduate and professional programs, under the banner of high standards, have too often maintained barriers that are simply formal; they are not of a kind conducive to learning. Studies for the doctorate are frequently pedantic, emphasizing a narrowness of focus that has little importance for the individual's intellectual and personal development, presumably the goal of all higher education. Similar charges can be leveled at far too many graduate professional schools.

Faculties ought to devise new options to achieve a liberal education; they need to infuse work and apprenticeship experiences with intellectual content. Certain students should be enabled to enter directly into advanced academic and professional education. New alternative paths to intellectual and professional development are in order. Colleges and universities ought to develop curricula that will reflect the aspirations of contemporary twentieth-century society; they should create a climate in which men and women mature, and where a larger number will understand and accept the responsibilities of service to their fellow citizens.

5. *Diversification and Differentiation.* The United States is noted for its presumed pattern of diversified higher educational institutions. In recent years, this diversity has been diminishing. Women's colleges seek men, religiously based schools are turning nonsectarian, technical schools add humanities, liberal arts colleges aspire to become graduate universities, and public state systems find political protection in copying each other. Residual differences have not vanished; the tendency, however, has been unmistakable: toward greater uniformity. The same models are held to be desirable by too many institutions; there is too little questioning of the appropriateness of those models. Yet the nation is peculiarly fortunate in having several competing value systems in higher education, and much should be done to increase that competition. It is an advantage that America has both public and private institutions of higher learning; it is good that some states have educational programs substantially different from those of others; it is desirable that some institutions should be linked to religious bodies and that some should be completely secular; it is important that some be exclusively for women and some exclusively for blacks if certain students flourish best in this kind of self-segregation; it is valuable that some should concentrate on the teaching of the young and that others should make their appeal to a more diversified student body. It is necessary that the variety and diversity of American higher education be preserved and extended; only through a clearly perceived understanding and acceptance of institutional differences can students and faculties make significant educational choices. There is no one optimum educational experience just as there is no optimum campus size or scale; students who are diverse in aptitudes and aspirations need many different paths to reason and self-fulfillment.

6. *Preserving the Private and Public Systems.* Educational diversity and differentiation can be preserved and extended only if private institutions continue to compete with those that are public. Since the Second World War, the nation has shifted from a primary dependence on private institutions to a growing dependence on public institutions. Today, almost all private institutions are in serious financial difficulties. The argument for their preservation and strengthening ought not to be a strictly economic one; the fact that private institutions with relatively modest public support would be able to perform tasks that public institutions would be required to do if the private institution did not exist is not the plea that ought to carry the greatest weight. Rather, the argument ought to be one of educational character. If private colleges and universities ceased to exist, certain major goads to innovation and differentiation would disappear.

Private institutions should survive and flourish according to their merits; both public and private are more likely to strive after differentiation, recognizing its utility, if students are in a position to maximize their choices by being more free to select certain institutions and programs while rejecting others. If financial assistance, whether through deferred payment plans ("Educaid") or scholarships, is made available to students, and if they in turn choose the institution most suited to their needs and competencies, there will be a greater tendency than is now the case for public and private institutions to complement one another.

7. *Enhancing the Professoriate.* The more than 500,000 teachers in American colleges and universities are recruited from a wide segment of the population and are highly diverse in qualities and interests. They are not professional in the same way that lawyers or medical doctors are. Teachers belong to a large cohort whose calling is education; each has also a special field or fields of expertise, participating in professional life with others who may not be academics at all; finally, each, as an officer of a particular institution, has specific interests concerning immediate institutional issues. It is not surprising that much of the professoriate has found it difficult to integrate all these roles effectively and simultaneously. It is time to upgrade the art of teaching, to create an environment in which learning is as important for teachers as for students, to develop collective and self-enforcing codes of responsibility. Only then will new educational energies be generated; only then will teaching and research reinforce each other.

Entrance to and exit from the professoriate should be made simpler. There are still too few women professors. This is particularly unjust when one considers the high proportion of women undergraduate students. Trained individuals from creative, professional, and intellectual endeavors of the most disparate kind ought to be welcomed to the colleges and universities on a part-time or other basis, to bring their unique experiences to the academic world.

8. *The Presidency: Governance by Delegation and Accountability.* Since the Second World War, faculty in American colleges and universities have participated more fully in policy-making. In the last few years, students at many institutions have also sought and achieved considerable participation in university affairs. Many of the changes that have taken place—and these have been primarily in the area of rules and regulations, in grading and course requirements, in the introduction of such new fields as black studies or environmental studies—have generally been responsive to the demands and interests of students and faculty. Other educational

and organizational improvements that have bogged down in committees or been lost entirely, having failed to secure wide support in either student or faculty governing bodies, have sometimes been among the most far-reaching reform proposals.

Since a university is not a parliamentary body, and even less a place where total participation is possible, the existence of a strong executive authority is essential. Only where such authority exists is there any possibility that proposed innovations will be debated, tested and, when appropriate, implemented.

If the executive function is to be strong, but also accountable, and not only to trustees but to faculty and students as well, there must be an organizational structure that encourages the flow of communications and provides opportunities for initiative and review. Some institutions may find senate, committee, and other existing structures adequate for consultation and participation; others may find new mechanisms more functional. In calling for the restoration of the authority and responsibility of the president, it is with the clear intention that leadership be exercised in a manner that gives weight to the opinions and values of the whole university community.

9. *Self-Help.* The Theses which follow, formulated in 1970, are presented at a time when many of the nation's colleges and universities are in serious financial difficulties. Some are in need of immediate federal financial assistance; certain medical schools, for example, are not likely to survive without it. But what ought colleges and universities to do beyond petitioning the federal government for help? What can they do, individually and collectively, to help themselves?

They can, of course, take their place in the long line of petitioners, already formed, that includes many of the cities and states of the country, and not a few of its major social and cultural institutions, who see in federal aid the solution to their economic problems. While it would be wrong to assert that this road should be disdained by colleges and universities, they ought to be prepared for the possibility that the federal purse will be slow to open. They must not so reduce their activities that they fail to educate in ways they should. They must make new appeals for funds from all private and public sources; they must learn to husband the resources they already have; they must share together what they have. There is not a perfect correspondence of interest between and among institutions of higher learning. It would be foolhardy to claim that there is. But there is more common interest than is sometimes realized. What is so desperately needed is the invention of new procedures and new institutional forms that will make cooperation and self-help more of a reality.

Theses

1

Higher education is currently available to over eight million Americans, but not to the very poor. A disproportionate number of the very poor are black, though many, of course, are white, American Indians, and Spanish-speaking Americans. Financial aids in the past went largely to upwardly mobile young people who soon became indistinguishable from the majority. In an America plagued by racial disorder and driven by conscience, there has been in the last half dozen years a serious effort to admit black students into colleges and universities. Despite the advances that blacks have made, black students today make up less than six percent of the college population whereas blacks comprise over twice that proportion of the national population. As for low-income whites in urban and rural slums, very few efforts are being made to secure higher educational opportunity for them. The situation of the American Indian and Spanish-speaking American is even more discouraging. Without claiming that all young persons should be in college, a matter dealt with later, the failure to educate students of low-income families, whatever their race or ethnic origin, ought not to be countenanced. Such students should be sought out by colleges and universities. Public monies should be available to those institutions that share in this national higher educational obligation.

2

Because low-income students, black and white, are often inadequately prepared for higher education—their schools, family situations and neighborhoods having generally hindered them—there is a need to make up for earlier neglect. There is no simple solution to the problem. Improvements in income and employment policy, in elementary and secondary schooling, and in the urban environment generally are obviously desirable. However, the issue is to overcome promptly the results of past neglect. To this end, colleges and universities ought to help establish precollege and preprofessional school programs, racially integrated, and preferably under the aegis of groups of institutions, to prepare students for established curricula. To encourage higher educational institutions to involve themselves in this work, state and federal grants should be provided to them.

3

Undergraduate admissions are readily available for women who can pay the fees. Graduate and professional school entry is often more difficult for them, in part because of the belief that many women will marry and will not persevere toward their degrees, or will not pursue the career they intended. Such arguments are used to deny financial aids even to those women admitted to advanced degree programs. The transformation in higher education that began in the last third of the nineteenth century needs to be completed. Not only should women in greater number be accepted in graduate and professional schools, but special provisions should be made for them, including the right to study on a part-time basis, particularly during the years when they are obliged to care for their young children.

4

Undergraduate degrees earned by women rarely lead to the same employment opportunity as those earned by men. To a lesser extent, the same is true for advanced degrees. Universities and colleges in their own employment policies ought to become model employers, demonstrating their readiness to engage women at every teaching, research, administrative and staff level. They ought to work through their placement and other offices to educate employers to pursue the same policy, thereby securing for women many more positions at salaries equal to those of men. If the above are done, and if women have the same job opportunities in all professions, including that of university teaching, the situation by the end of this decade will be dramatically different from what it is today.

5

Having said something about those who are currently denied access to certain kinds of higher educational experience, it is important to speak also of those who are privileged in these matters but who are not at all content with their situation. For students from certain favored family backgrounds, going to college on graduation from high school is automatic; many, though not all, proceed then to a graduate or professional school. Some insist that their choice is not a free one; the employment (and social) situation compels them to be students from the time they are six until they are in their twenties. This "involuntary servitude"—it is seen as such by some—is wasteful and ought to be eliminated. It ought to be possible for more students to interrupt their studies, work for a time and return, with this regarded as a natural educational sequence. Some colleges might experiment with reserving substantial numbers of places for students entering as undergraduates whose ages are twenty-one and over and who have spent three or more years away from formal schooling. In addition, all institutions ought to be more venturesome in admitting older students into their graduate and professional schools. In a very short time, and without help from outside agencies, colleges and universities could alter themselves so that undergraduate schools were no longer exclusively the enclaves of late adolescents and graduate and professional schools no longer exclusively the enclaves of young adults. Those who choose to go through without a significant break should, of course, be free to do so.

6

The decision to postpone higher education, whether taken by an adolescent or a young adult, ought not to be regarded as irrevocable. What a young person may not wish to do at eighteen or twenty-two he or she may be very interested in pursuing at thirty or forty. American colleges and universities have generally been somewhat more hospitable to such "second chances" than their European counterparts, but few have made it a central tenet of their admissions policies to seek out and make places available for interested adult students. Even where "continuing education" and evening programs exist, these are rarely at the center of a university's concern. A greater number of institutions—including many of the more distinguished—ought to concern themselves with providing higher educational opportunity for adults and not simply of the old "continuing education" variety. With such a major commitment, new kinds of students may be expected. Some will come largely for vocational or professional reasons; their motivation will be to keep abreast in subjects that are rapidly changing. Finding a new career—switching one's occupation in mid-life—may be the most compelling reason that others will have. Still others will come for the kind of general education that was unavailable to them when they were young, or that they chose not to pursue at that time, having little sense of its value. No group stands to gain more from programs of expanded adult access than women. Their responsibilities as wives and mothers in a critical period of their lives effectively bars far too many from further education except in the most casual kinds of programs. Colleges and universities ought to recognize what is lost as a consequence of present academic practices.

7

Some students after one or more years of college will conclude that their experience of higher educational institutions does not have much interest for them; some teachers will reach the same conclusions about these and other students. It is unreasonable to believe that all who start will finish, even with a lapse of time. Institutions of higher learning ought to lead in helping such students to bypass the social and economic pressures for mandatory attendance. The colleges and universities ought collectively to address themselves to the task of working with employers and trade and professional associations to free many jobs from routine requirements that make college obligatory. Such attendance is often unnecessary for many of the positions for which it is presently required, and ought not to be imposed as a condition for gainful employ. In this, as in so much else, the colleges and universities themselves through their own employment policies should set the pattern for others.

8
If access to employment opportunity were less exclusively through college or university education, the pressure to secure admission to such institutions would diminish. New kinds of institutions should be established to appeal to those who are not very much taken with an academic environment; for example, many new kinds of apprenticeship are needed. Every innovation that reduces the pressure on colleges and universities to accommodate all, including those who are not interested or able—and that reinforces an element of choice on the part of the individual—is desirable.

9
It is unrealistic to expect that increased access for neglected groups as described above, even with the caveat that all should not attend colleges and universities, can be achieved without new sources of financial support. Therefore, in addition to existing scholarships, work-study and other financial aids, a supplementary self-help program to be called Educaid should be developed. Educaid refers to a deferred payment program covering tuition and other fees and room and board that should be made available for any student capable of doing college or university work. The deferred payments should be guaranteed by the federal government in much the way mortgage guarantees are provided. Repayment should be in proportion to the long-term income of the recipient. The person who by choice or fortune later in life has a high income would repay somewhat more than received; the person who does not attain such an income, whether because his or her choice of profession or occupation precludes it, or because personal adversity—illness and the like—prevents it, would repay less. Such methods for increasing student financial aid have been receiving greater attention in recent years; they provide that some will pay a fairly high premium for the funds they receive, while others will, in effect, receive a subsidy.

10
American colleges and universities, responding to public demand, have collaborated in a system of degree certification that makes a mockery of some of their educational objectives. At times it almost appears that the degree-granting function is higher education's principal reason for being. The role of colleges and universities as gatekeeper, granting "passports to employ" in professions and callings, is onerous. Arguments have been made that the certifying responsibility ought more appropriately to reside with other bodies—employers, professional associations, governmental organizations, and the like. Academic institutions ought to make more deliberate studies of what would be gained and lost by such a transfer (even if only partial) of many of their certifying obligations.

11
Until there are such studies, the present practice of having an individual college or university grant specific degrees as indicators of professional and career certification should be maintained. This, however, need not preclude the development of new

systems of certification. State, national and international bodies, both public and private, either constituted for this specific purpose or serving other purposes as well, might be given degree-granting authority. They should be prepared to recognize various kinds of accomplishments, evaluating studies performed at several institutions or undertaken at home, judging work, and other like experiences.

12
Alternatives of this kind would contribute to the modification of present conventions that require individuals, generally in late adolescence, to pursue studies for a fixed period for a particular degree at a single institution. The tradition that a bachelor's degree is awarded at the end of four years of formal study would be challenged. Certain students might obtain their first degree in one, two or three years; others might obtain it in five, six, or seven years. The incentives to intersperse long work periods with periods of full-time or part-time study would be increased. Such flexibility ought to become common for all degrees. Students should be able to defer or interrupt college, graduate or professional school, precisely because there is no rhythm or pattern of intellectual curiosity or social maturity that is common to all.

13
Students ought to be permitted to intermingle study and work in ways that are now uncommon. This is not simply a plea for an extension of what now passes for cooperative work and study programs, where the student spends one or more terms away from a college campus. Rather, it is an assertion that significant employment opportunities for students may be provided in term-time if the university recognizes the value of such experience and is prepared to admit its educational importance. New counseling and instructional techniques will be needed for such educational combinations. Without close supervision, programs of this kind could easily become peripheral—a kind of extracurricular "make-work."

14
National and institutional examinations should be further developed to enable students who lack a bachelor's degree to go directly into advanced graduate or professional study. Where ability is demonstrated, there is no excuse for a person being barred from more advanced study by the lack of conventional degree credentials. Many veterans after the Second World War were given options of this kind; there is no evidence that they abused the privilege or in any way suffered as a consequence.

15
Many students opt for advanced graduate and professional study not out of great interest but almost in a spirit of resignation. The universities would be well advised to adopt a more critical stance in respect to their advanced degrees, recognizing that they are not necessary to all professional employ. They ought more regularly to initiate shorter graduate programs, which may or may not lead to degrees. They ought systematically to encourage employers and professional associations to accept such preparation.

16
That colleges and universities would be substantially altered by new policies of

access and certification, no one would seriously question. They would be no less dramatically altered by substantial changes in the character of their faculties. Present modes of access to the academic profession are too restrictive; training for the profession is frequently too narrow. The possibilities for withdrawal before compulsory retirement age are far too limited. All these practices should be reviewed and modified.

17
The Ph.D. degree is today the required license for teaching in most American colleges and universities in arts and sciences faculties and in certain professional schools. This degree's near monopoly ought to be challenged. The two distinguished English universities, Cambridge and Oxford, take it for granted that in many fields a well-educated person with an honors bachelor's degree is suited to an academic teaching career. American colleges and universities ought to experiment with the same practice.

18
While advertising for candidates for university teaching posts is not regarded as undignified in many English-speaking countries, it is in the United States. In America, cronyism may easily substitute for a critical assessment of a wide range of available candidates. Advertising is no panacea; however, it and other means of locating candidates and soliciting their interest about posts that are open ought to be more widely used. Any device that serves to make a greater number of people aware of the existence of an academic vacancy and that disseminates information about it may help obtain better applicants.

19
Colleges and universities should adopt recruitment policies that will attract for part-time or full-time teaching positions men and women whose original career commitments were not in the academic world. Clearly, not all disciplines can be served by such persons; many, however, can be. In general, these persons ought not to be of an age where they are near retirement in their own professions. Rather, the purpose ought to be to recruit for varied periods of time individuals at the height of their careers who would bring perspectives and concerns that are not common in the academy. Some alumni would be attracted by such job opportunities. The normal off-campus work place of such teachers might provide congenial learning sites for students, undergraduate and graduate.

20
Although every effort should be made to recruit from outside as well as inside the academic profession, the greatest number of professors will come from the ranks of those who have especially prepared themselves for a university post. Despite the possible changes noted previously, this will often mean persons holding the Ph.D. or an equivalent degree. It behooves universities, and particularly the fifty that provide most of the arts and sciences and engineering doctorates in the country, to examine their graduate degree programs critically. Many institutions offer a graduate education that is excessively specialized and unreasonably time-consuming. Every effort ought to be made to introduce greater flexibility into these graduate programs, with all unnecessary hurdles being eliminated. The large universities of the country bear a heavy responsibility for the morale of doctoral candidates, and therefore for the morale of the academic profession. Too many academics presently enter the profes-

sion in a disgruntled state, angry over what they conceive to be the inadequacies of their graduate education.

21
Apprenticeship programs for college and university teachers, with guidance and supervision provided by experienced teachers, ought to be available for graduate students who intend to become professors. Those who are just starting in these careers would be particularly helped by such programs. Young scholars and teachers are now being given such learning opportunities in several institutions; this practice needs to be extended.

22
If some of the aridity of primary school education derives from the sex-typing of teachers who are overwhelmingly women, a comparable problem arises in university education where the professoriate is overwhelmingly male. Major efforts to recruit a greater number of women professors ought to be initiated. The academic profession would be substantially transformed by an infusion of such new talent.

23
The most stimulating university teaching generally occurs where the individual is actively engaged in significant scholarly research or in other creative exploration. The college or university has an interest in encouraging individuals in these efforts and in rewarding them. Too few institutions are at all adept in doing so. Too many gauge scholarly performance by the crudest of measures; they count bibliographical citations. Just as students need to be persuaded to work for something other than the accumulation of course credits, professors ought to be discouraged from that kind of writing designed to fill dossiers with lists of publication titles. The production ethic that emphasizes quantity is inimical to scholarship; more universities are beginning to recognize this. Though many good scholars and teachers are prolific, creative endeavor is frequently sporadic and time-consuming, and not at all susceptible to gross production standards. Reliable evaluation of quality is probably as often accomplished through external review by scholars who understand the nature of the scholarly contribution as by any other means.

24
Teaching is still too little valued in too many colleges and universities. More systematic appraisal methods need to be introduced to identify and reward successful teachers. Student opinion in these matters is crucial, even though decisions on appointment ought to continue to rest with faculty and administration. Those who secure the benefits of good teaching—the students—ought to be included among the principal guardians of the teaching function. The hazard that such guardianship will encourage and favor showmanship and a quest for popularity can be overcome by policies that balance student preferences with the judgments of others, including colleagues. These judgments should include an estimate of the individual's capacity to attract able students, however few, and the importance of preserving specific fields whether or not they attract many students.

25
Appointment to permanent tenure is often regarded as the most important stage in an academic career. Colleges and universities are derelict when they make the most searching inquiry to determine whether an individual merits a permanent post and do nothing to encourage creativity once the person is installed in that post. The in-

tellectual growth of its faculty ought to be a prime responsibility of any institution concerned with the intellectual growth of its students. Colleagueship will have a determining influence in this matter. So, also, will the administrative decisions that grant time to individual faculty members, not as sabbaticals and not tied to specific projects financed from outside, but as an opportunity to explore new areas relevant to their teaching and research. To make these decisions wisely, deans and presidents will need to inform themselves more thoroughly about the teaching and scholarly contributions of professors.

26
In many institutions, an initial appointment carries the presumption of the right of reappointment. Tenure is generally automatic in such instances on reappointment after a number of years of service. The growth of unionization and collective bargaining reinforces this practice and also reinforces the practice of having uniform salary scales. The principle of differential rewards for merit in teaching and scholarship, which exists for very good reasons, should not be tampered with where it still prevails.

27
There is little self-regulation by faculty in most institutions. Only the most flagrant evidence of gross misbehavior will involve an individual in disciplinary actions initiated by colleagues. Desirably, the faculty member who, for example, interferes with the academic freedoms of colleagues or students ought to be subject to faculty-imposed sanctions under a self-generated code of faculty conduct and responsibility. The alternative to such self-regulation may be a form of additional outside-control that carries hazards for intellectual freedom in the colleges and universities of the country.

28
Despite the abuses common to permanent positions, professorial tenure needs to be retained as a guarantor of academic freedom against political and other pressures. Yet, means ought to be developed to encourage and facilitate the early departure of those who are making small contributions to their institution and their students. To this end, pensions should be reorganized so that professors may retire (and in some cases be encouraged to retire) at substantial partial pay after twenty years of tenured service at one or more universities. This arrangement is similar to others that prevail in the foreign service, the military and various civil service systems where indemnity offers a viable reconciliation between competence and security.

29
Alterations in the character of the academic profession, together with changes in respect to access and certification, cannot fail to have profound effects on the curriculum. For great numbers of American undergraduates, instruction is still largely in readily marketable skills, principally business administration, elementary and high school teaching, engineering, and the like. In the case of the two-year colleges, the occupational focus is even sharper. It is in selected large universities, public and private, and at certain four-year colleges that substantial numbers of undergraduates devote themselves to what is traditionally defined as an arts and sciences curriculum. Curricular experiments should be made in all these institutions; it is very desirable that these experiments be as varied as possible.

30

What is required is the development of new attitudes toward learning. General education, which is in retreat, needs reformulation. The difficulties of doing this ought not to be underestimated. To point out that a curriculum should make place for the affective no less than for the cognitive and the objective is only to open the argument. To recommend that facts be respected, but that general theory not be scanted, that a concern with Western culture be tempered by a concern with Eastern and other cultures as well, that contemporaneity be stressed, but that the past and the uncertain future also be studied, and that literacy be achieved not simply by studying one's own language but by knowing others, including that represented by the symbolic languages of the sciences, is to give a measure of the complexity of the problem. The difficulties are so great that it is easy to fall back on one of two curricular options—to have all students study some one subject to the complete exclusion of others, or to have them take any combination of disparate courses so long as they add up to the total number of semester credits specified for a degree. Both these courses of action are evasions of curricular responsibility. If faculty members believe in something in addition to specialized education, they ought to define alternative forms of what that education should be and how students are to be encouraged to explore them.

31

The problems of instruction today are different from what they were a decade ago; they are likely to become even more different if the Theses with respect to access and certification, suggested above, are realized. Thus, for example, the struggle to familiarize students with their past, to locate them in time and place, is not likely to be achieved by demonstrating a link with a European past, or even with an African or Asian past. One of the many experimental approaches to undergraduate education might be to dwell on those elements common to modern societies, at the same time indicating what makes them distinct and separate. Modernity may best be studied on two levels: what unites the planet and what divides it. It must not be assumed that the latter are mere residues—political, religious, and philosophical ideas of an earlier time—destined soon to be placed on the ash-heap of history. These are integral to modernity, no less so than the technology too often seen as its only distinctive hallmark. An approach that concentrates on man's twentieth-century experience should not mean that only the twentieth century is studied. The spiritual and material fantasies of our time cannot be disassociated from their roots. The concern must be with interpreting and understanding modern man's political and social predicament, seeing these in a context that takes account of his psychic and spiritual needs.

32

Colleges are not very successful in communicating the nature of scientific endeavor or inquiry to those—the great majority—who do not concentrate in the natural sciences. As between the sciences and the humanities, broadly defined, there are large methodological and epistemological differences. So long as the majority of American students situate themselves in nonscientific disciplines, there is an obligation to instruct them in the activity that dominates contemporary culture and yet remains so alien. One problem is to determine what kinds of concrete scientific information would benefit various groups of educated men and women. Another problem is to develop means for instructing undergraduates in certain of the methods and symbolic languages of the natural sciences. Too many colleges and universities have accepted for too long the reality of their students' scientific illiteracy.

33
Today, another kind of illiteracy and cultural parochialism also threatens. The interest in foreign languages has declined sharply. Traditional language requirements were clearly insufficient for giving most students any meaningful proficiency in a foreign tongue. This failing contributed to the demand to do away with the requirements altogether, a demand that was sometimes acceded to. Whether or not it was, new experiments are called for that will enable the student to use a foreign language in his or her other studies, particularly in the examination of other cultures.

34
An undergraduate's decision to concentrate in a given field ought not to be taken to mean that a new recruit has been won for graduate study in that field; the undergraduate's major ought not to be viewed simply as a preparation for graduate study. If members of departments will concern themselves as much with the logic of their discipline as they do with its content, new kinds of instruction will become available for the undergraduate. This ought not to be interpreted as simply a plea for a study of methodology; it is an argument for a greater concern with instructing the undergraduate in the nature of evidence, the forms of proof, the basic premises and axiologies of a discipline. The members of a department ought to define what a student may be expected to derive from a period of study in a particular discipline.

35
Certain large institutions might experiment with creating programs that permit early specialization. For some beginning undergraduates, a university option with immediate entry into advanced professional or academic study should be made available. This option would be most appropriate for those few who have acquired a superior general education in their secondary schools, have made an early and firm selection of career or field, and are ready, emotionally as well as intellectually, to forego many of the experiences of college life; also, it would be particularly appropriate for those who return to college after years of absence.

36
Just as it would be wrong to prescribe a single curriculum for all undergraduates, so it would be wrong to do this for all graduate students, or even for those in arts and sciences faculties alone. Still, certain broad assertions can be made. The graduate student who expects to be a college teacher ought to be treated as a prospective colleague by professors. This means that students will be encouraged to prepare courses and will be given teaching opportunities; also, that there will be a large involvement by senior professors in these instructional assignments. Where students are intending to choose a professorial career, they ought to learn as much as they can about the profession that they intend to enter, and about universities generally. Too many who emerge with Ph.D.s have little sense of either. The dissertation requirement remains a confusing obligation in too many disciplines; every effort should be made to clarify what is required, and modesty ought to be the general rule. Many disciplines would be well advised to consider what has become commonplace in the natural sciences where students frequently obtain their advanced

degrees in a relatively short time, having demonstrated their capacity for independent research. In too many fields the use of stilted nineteenth-century scholarly formulae results in the production of huge pretentious documents that mock the presumed intention of dissertation requirements. Neither student nor professor is enhanced by the rules of the dissertation game as it is too frequently played at present. Many graduate students, of course, are enrolled in advanced degree programs that are directed to professional rather than to professorial careers. They, no less than future academics, would profit from a change in the ethos of graduate instruction. Studies that are too impersonal and prolonged, with requirements that are obscure or unintentionally punitive, should be drastically revamped.

37
With the American penchant for "professions," each decade sees more occupations so labeled. Professional schools in colleges and universities often work hand in hand with professional organizations to set up qualifications—and restrictions—for entry into their fields. An early preoccupation with a narrow vocational competence is gradually giving way, at least in some universities (in certain professional schools more than others), to a greater concern with research and theory. This tendency carries desirable possibilities, particularly if it can be linked to the concern for "social relevance" that is so much a preoccupation in our time. New kinds of education in medicine, law, management, architecture and other professions are now called for. This is a propitious time for innovation in professional curricula. Among the reforms worth considering is the opening of professional courses, now reserved for postbaccalaureate students, to undergraduate students, to give them an early acquaintance with the profession so that they may judge whether they are suited to it. If they conclude they are, they ought to be encouraged to integrate their professional study with study in the arts and sciences. Courses in the professional faculties should be regularly open to arts and sciences graduate students; the reverse privilege should also be generally available. Faculty from professional schools ought to be encouraged to offer instruction in related arts and sciences disciplines and in professional schools other than those in which they hold their appointment. The same encouragement should be extended to professors in the arts and sciences. The greatest flexibility should exist in all these matters. Too many universities continue to harbor too many academic and professional ghettoes, separating colleagues whose intellectual interests should be bringing them together.

38
Colleges and universities are experimenting with variations on the instructional system that they have traditionally relied on. Clearly, independent study and small group tutorials offer large teaching possibilities. They are immensely demanding, and often—though not always—entail extra expense. Also, there has been over many years talk of the increased use of audio-visual and other technical devices, some of which reduce staff costs. Certain of these procedures are now being tried, and professors and administrators should inform themselves on their utility. The sharing of technical devices ought to be considered by neighboring institutions. Significant learning experience gained outside the college or university should be welcomed. Whether the instruction be formal or informal, in a ghetto or in a foreign university, evidence of accomplishment should be quickly recognized. The university has no interest in keeping back students who have had equivalent educational experience elsewhere and who can demonstrate this. Where it is possi-

ble to involve students in the research efforts of professors, there is every reason to do so for the benefit of both.

39
Many faculties ought to reconsider existing college and university calendars. More flexible class schedules need to be devised, permitting many professors to concentrate their teaching over a shorter period in which they give the whole of their attention to teaching obligations, while reserving another part of the calendar year principally for research and similar creative activity. A variety of calendar reforms would give students opportunities to work by themselves or to work off campus in ways that are not now possible. The classroom need not be the only setting for teaching; residence halls, museums, hospitals, courthouses, factories, schoolhouses, and other public and private facilities offer appropriate sites for education. Where they can be useful, the college or university has an interest in gaining access to them.

40
Examination of prevailing extracurricular activities suggests that many were created in the nineteenth century to assist adolescent boys to enjoy collegial living. Faculty and other adult supervision was provided as a way of showing the institution's concern for its charges. Colleges and universities would be well advised to reconsider their commitment to support such extracurricular pursuits. If students, increasingly adult, are to be independent, they must choose those activities they wish to maintain and must consider how to support them. There may be a sound educational reason for the extracurriculum being placed wholly in the hands of students at certain institutions, making possible experiments of a kind that cannot be expected to originate in the votes of faculties or governing boards. At certain other institutions, where the extracurriculum is seen as an integral part of the educational experience, almost indistinguishable from the curriculum, faculties may choose to exercise greater leadership.

41
The argument has been frequently made that research interests divert professors from their teaching obligations, thereby leading to a neglect of students. This may indeed happen. It is particularly unfortunate when it happens for research or writing that is trivial, motivated largely by pressures for promotion. The challenge, clearly, is to remedy such abuses. To adopt policies that will destroy the vital links between research exploration and imaginative teaching is no remedy. Any attempt to develop a teaching ethic in higher education that would banish research would risk making teaching sterile. Those professors who are inclined to do research should be encouraged to do so. This, however, need not mean that the university will welcome every kind of research effort.

42
Certain types of large-scale sponsored research are more suited to outside research institutes than to universities, though some of these institutes may be loosely affiliated with universities. Research that improves the learning process, is linked to teaching and the intellectual concerns of faculty members, is most appropriate for universities. There is no reason for universities to serve as holding companies for large laboratories or research projects that are not linked to their educational programs. The attraction of large expansions in staff and facilities needs to be resisted.

43
Research in universities, whatever its source of support, ought not to be secret. The results of research under any kind of university sponsorship ought to be made freely available, except where conditions of privacy relating to individuals require confidentiality.

44
Decisions to accept or reject particular large-scale sponsored research programs have a major effect on the character of an institution. Faculty and administrators who decide on these matters ought to consider: the contribution such research will make to faculty members and to the educational programs of the institutions; the effects that there may be on the traditional academic freedoms of the university community; the positive and negative impacts on other institutional programs that can be foreseen; the future costs of maintaining such research activity and its probable social value.

45
Some of the current adverse criticisms about university policies with respect to research and service assume a far greater institutional involvement than is in fact the case. The amount of industry-sponsored research at colleges and universities is relatively small. Large-scale federal sponsorship of research projects is important at perhaps fifty universities and only for a minority of their professors. Most research by college and university professors has no outside support, and might be best described as individual, publication-oriented inquiry without elaborate or expensive trappings. Such research can be immensely significant for the quality of teaching within a college or university and for the intellectual growth of the teachers. For these reasons, the institution ought to foster it from its own resources. Where these are insufficient, as they will generally be, strong efforts should be made to secure additional funds, and not only from the federal government.

46
Universities have never been extensively involved in directly providing public service except in agriculture and medicine and to some extent in primary and secondary schools, and, of course, in their role of providing education and training to their own students. However, many thousands of professors, on an individual basis, working as consultants or volunteers, independently of their institutions, have served community, state, federal, and private organizations. Today, colleges and universities are urged to devote major resources to public service. The suggestion is made that they solve the difficult problems of modern society; poverty, racism, urban blight, and a deteriorating natural environment are a few of the matters that they are asked to deal with. Higher educational institutions, in fact, have neither the resources nor the political capacity to engage in such activities except on a modest scale. What they can do and should do, if invited, and if their professors and staff have the professional competencies and are in fact interested, is to contribute knowledge that may be relevant to these problems. Their major contribution ought to be an intellectual one; individuals and groups are in a position to outline courses of action worth considering by those with the responsibility for solving public problems. A larger direct institutional involvement is possible only in a limited number of circumstances.

47
One would expect universities to have a complete agenda, with very many suggestions, on at least one subject—the study of higher education. This is rarely the case. Universities are too little involved in a subtle and complex analysis of education at any level; it is still uncommon for the talented members of a variety of disciplines to focus on the problems of education. This area of research and service ought to be developed. It is unreasonable for the university to pride itself on its expertise in numerous other areas and be ready to accept its continued ignorance on many aspects of its own prime concern—education.

48
A college or university—even when it is small—is an intricate organization. Trustees, administrators, students, professors, staff, alumni, and legislators and public officials are all assumed to have an interest in the institution. It is easy to underestimate (or exaggerate) the influence of any one of these. Good governance depends on a reasonable allocation of responsibilities that makes the structure of authority credible for all these groups. It is impossible that all should decide everything or be consulted on every issue. No parliamentary or bureaucratic procedures can be developed that will guarantee such participation and consultation in most institutions. University governance exists to make education possible. This objective is most likely to be achieved, and not in a superficial sense, where there is a division of responsibility, a sharing of information, and a readiness to subject authority to the requirements of a well-defined system of accountability. Too few institutions have developed these characteristics in their mode of governance. Many more ought to do so.

49
A system of college or university governance should itself be educative for all who take part in it. A style of institutional arrangements appropriate to higher education should be borrowed from the academic ideal of reasoned scholarship, in which findings and proposals are submitted to critical review. For too long, colleges and universities have borrowed their governance models from business and public administration. Neither is appropriate for most functions of academic institutions.

50
The ultimate legal authority in most contemporary American colleges and universities resides in a lay governing board. The idea that higher education is too important to be left to educators and students alone, and that it requires surveillance by the larger society, is implied by this arrangement. Because of the importance of trustees, they ought to be chosen on the basis of their capacity for deliberation, judgment, and vision. These attributes do not run counter to fund-raising ability and devotion to the institution.

51
The principal functions of the governing board ought to include: joining with the president in planning the long-range future of the institution (the faculty can rarely transcend itself in this matter, and students generally have too short a time-perspective); selecting a president with the cooperation of those that have reason to be interested in the appointment; preserving and imporving the financial position of the institution; linking the institution with public and other outside agencies in such a way that will advance the interests of faculty and students.

52
Though governing boards should not be selected on a Noah's Ark principle, certain groups (blacks, for example) are rarely included; women are least represented, considering the proportion of women students. Both ought to be significantly represented; if represented, they would enhance the general influence of the board, bring new perspectives, and, in some instances, might possibly improve their fund-raising capacity. At most institutions, board members ought to have renewable term rather than life appointments.

53
Faculty and students serving on the governing boards of their own institutions might lead boards into day-to-day academic decisions that ought in fact to be delegated. However, governing boards should often include professors and administrators from other institutions. Recent alumni are often closer to the perceptions of students than others, and should be considered for board positions. Faculty and students ought to have the opportunity to nominate outside trustees, though not necessarily to select them. The opportunity to nominate by a petition signed by a designated number of faculty or students—alumni frequently have such a privilege—ought to be experimented with. Faculty senates, student governments, employee organizations ought all to have means available for communicating with the governing board.

54
Boards of trustees have often been effective buffers against political and other pressures directed at colleges and universities. Today, however, boards are sometimes the conduits of these pressures, serving only to exacerbate already difficult situations. The buffer role ought to be reinforced, particularly in those state institutions where political pressures are especially strong.

55
The college or university presidency is uniquely important in American higher education. The office needs to be strengthened so that it can more effectively fulfill its principal responsibilities. These are: to represent the general interest of the university as a whole; to be its spokesman; to be sensitive to the educational and intellectual needs and missions of the academic community; to be both a member of the faculty and its leader; to initiate major academic study and reform; to allocate resources to achieve specific educational goals and priorities. Together with the governing board, the president should plan for the development of the university (the planning process should involve all the constituencies to the fullest extent possible). Through the appointments the president makes to the administrative staff and those he or she influences in the professoriate, standards are set for integrity, educational achievement, vision, and humanity. The president should perform his or her duties with as much grace, efficiency, and absence of bureaucratic control as possible.

56
Many large institutions should have two or possibly three or four leaders with such titles as president, chancellor, provost, executive vice president; in addition, there may sometimes be a need for a full-time chairman or executive vice-chairman of the board of trustees. The complexity of many academic institutions requires a greater

division of labor than now exists. With every such division of labor, there is, of course, the hazard of divided responsibility. This needs to be guarded against. The best way to do so is to have all major executive tasks delegated to others by a single chief executive officer in whom authority is vested.

57
Part of the ambiguity about presidential and other academic authority arises because there are two major organizational systems: the associational system and the executive system. In the first (for example, in a faculty senate), all members are presumably equal so long as they accept the basic premises of the association and act collegially. In the second (for example, in an administrative hierarchy), a central set of incentives and sanctions is established by executives. These conflicting organizational systems should be combined into a system of delegated, responsive governance, in which authority and responsibility are exercised by executives who themselves are accountable and thus can be checked by faculties and others when there is extreme dissatisfaction with their decisions or actions.

58
Academic administrators come principally from faculty careers, and desirably so. Normally, they ought not to serve in a single position for more than a dozen years. In the course of that period there ought to be at least one review, which should include an assessment by both faculty and students. In large institutions, a corps of middle-level administrative staff ought to be developed to relieve the routine for academic department heads, deans and other officials. Training and career advancement programs for such staff ought to be offered by single institutions and groups of institutions.

59
In the American pattern of academic organization, either strong academic deans or strong department chairmen are required. If neither is strong the institution will suffer; if both are, conflict is likely. In most cases, it is desirable to strengthen the deans as against the department chairmen, lest excessive compartmentalization take place.

60
Arguments for representative faculty senates or for town-meeting faculty senates are legion. The small college can function well with the latter type. The larger institution should think seriously of having both—the representative body for most issues, the town-meeting senate when a sizable proportion of the faculty wishes an opportunity for further deliberation. Small groups of faculty generally dominate faculty senates and similar organizations. At many colleges and universities a large number of faculty either choose to avoid senate assignments or are not invited to take part in them. The same names appear repeatedly in the membership of key committees. If faculty self-governance is in fact to flourish, many who are devoted to teaching and scholarship, who would often rather stay aloof from administrative responsibilities, need to become involved. Membership in the executive bodies of large senates or in representative senates or major faculty committees ought to rotate.

61
Faculty or faculty-student committees have grown more important in the governance of colleges and universities. These are sometimes chosen by administrators,

who have some sort of "representative" principle in mind. In other cases, they are chosen by senates, university councils, and similar groups. Departmental, divisional, school, and other committees have also proliferated. Committees in such profusion create confusion. Their number ought to be reduced and a time limit should often be set for them. To save the energies of both faculty and students, and to make committees more effective, the more important ones ought to have administrative staff members assigned to them. This, of course, raises the hazard of committees becoming the servants of the staff, but that problem can be guarded against, whereas the inefficiency that frequently develops when there is no staff cannot.

62
The tendency to create unicameral legislative or advisory bodies for colleges and universities raises the possibility that important issues specific to either faculty or students will be obfuscated. Where such councils or campus-wide senates are established, separate faculty, student, and other deliberative bodies should also be maintained.

63
Many colleges and universities possess in their faculties great expertise in management, design, law, operations research, and other fields important to the running of a complex institution. These internal talents should be called on to help in the governance of the institution. Although difficulties may arise when recommendations from faculty are turned down, the benefits of using such talents generally exceed the costs.

64
Student government is a misnomer in almost all institutions. It rarely governs, though it often provides a forum where student views on the governing of colleges and universities are heard. The centralization of student politics, a result of having a student government, may reduce the involvement of students in the decentralized schools and departments of the institution. When this happens it is unfortunate, because the greatest possibility of students influencing educational policy can occur on a decentralized basis. This is the kind of student involvement that should be fostered.

65
Many activities in addition to the extracurricular ones now handled by students might desirably be delegated to them. For example, on some campuses the responsibility for residence halls and other living arrangements ought to rest with students, as is the case in several European countries. These, and similar experiments, should be monitored; it is possible that some functions can be better performed by students than by others.

66
In the functioning of colleges and universities, particularly large ones, those who carry professorial titles are only part of the larger company of professionals who have responsibilities for teaching and research. These other professionals, at some campuses, may be at least as numerous as the professoriate. They are beginning to seek an influence from which they have been previously excluded. There are no traditions for guiding faculties or administrations in dealing with these important colleagues. The concept "staff" is far too ambiguous and all-inclusive. If any inter-

nal governance problem, not already high on college and university reform agendas, requires study, it is this one.

67
Though the *initiative* has not had large influence in public affairs, where it once seemed to hold such promise, it may have greater applicability in academic institutions. Various colleges and universities ought to experiment with the *initiative* so that when large numbers of faculty, staff, or students seek a new policy or wish to abolish or revise an old one, the issue can be acted on with reasonable promptness by administrators, senates, and others who have authority to do so.

68
There is much experience at certain colleges and universities in the use of ombudsmen, which is intended to enable any member of the institution to seek redress of grievances. Not surprisingly, those ombudsmen function best who appear to have the respect and ear of all constituencies. Additional institutions ought to experiment with ombudsmen or boards of ombudsmen, informing themselves of, and evaluating, the experiences of others.

69
Traditional methods for winning alumni support—athletic programs, class reunions, regional alumni gatherings—though successful with some, are clearly no longer adequate for others. Younger alumni seem indifferent to many of these approaches. Just as the colleges and universities must recognize the diversity of their students, so they should acknowledge and benefit from the diversity of their alumni. If higher educational institutions pursue the objective of making the education of diverse adults a more central concern, lifetime educational opportunities ought to be made available to alumni. This might include the right to return for special courses, summer programs, and other educational offerings still to be devised.

70
Since colleges and universities are dependent for their well-being on public confidence and support, they should inform their alumni regularly about those problems and issues that affect higher education. To contribute to the creation of an informed public opinion on higher educational matters is an obligation about which colleges and universities should be outspoken.

71
If the internal and external constituencies of a college or university are to be kept properly informed, effective use of the written word is required. The many publications issued by departments, faculties and schools, including college catalogues, faculty handbooks, student guides, financial aid bulletins, weekly calendars, alumni magazines and fund-raising literature, together represent a considerable financial investment. Their purpose—to expound the institution's activities and goals—is insufficiently achieved. As a result, those who are not actually in the institution (and many who are) have only the most rudimentary notion of what in fact is happening. All such publications should more deliberately seek to reflect the institution's character and specific programs.

72
Colleges and universities ought to have a "Hansard" or regular publication reporting on all specific actions, executive, adjudicative and legislative, taken by trustee,

faculty, student, staff and administrative groups. Similarly, such a publication should make available information about major contemplated policies or decisions on the part of any or all of the above groups. When possible, there should be sufficient time for comments and criticisms to be prepared and included in this publication.

73

The American ideal of equality of opportunity through education has in the last quarter of a century been achieved largely through state universities and colleges, public junior colleges, and municipal institutions. Without public higher education, the present level of access would never have been secured. Now, however, many private institutions are in great trouble. If private institutions fail financially, the public exchequer will be required to assume the burden they previously carried; the costs would be very high. The more important argument for a dual system, public and private, however, is one of educational variety. Private institutions ought to continue to exist as sources of experimentation. The major private institutions are important precisely because they guarantee that higher education is not pushed toward uniformity and political hypersensitivity. Foundations, private firms, and other potential donors should recognize the fragility of these institutions and reflect on how they can help them.

74

With the growing dependence of higher education on public funding, the risk of leveling increases. Examples of excellence, so important in setting the standards of aspiration for all institutions, become all the more necessary. Difficult as it is politically to favor some institutions rather than others, selective support, public and private, is essential and ought to be fought for. No one ought to underestimate the resistances to this principle; uniform support for all institutions will have ardent defenders.

75

There is no optimum size for colleges and universities. For some students and teachers the small school will provide the most gratifying experiences. At larger colleges and universities, there are more choices. This is not to say that the increase in choice is at all commensurate with the increase in size. Large institutions should create programs and facilities that provide the option of a more intimate scale; this can be accomplished at some places through creating a variety of small colleges within the larger campus, or through other, more modest ventures.

76

Higher educational institutions in America, to their detriment, are imitative. The "front-runners" are constantly aped by those with more limited resources. As a result, though there are over 2,500 institutions, they converge on a few models. Policies designed to produce greater differentiation, though difficult to fashion, are essential. Colleges and universities should become more discriminating in relating their resources to particular needs, less worried about their standing (often a mythical one) vis-à-vis other institutions, and more determined to develop experiments in every aspect of institutional life. If these things were done, the claim of American higher education to being pluralistic would begin to approach reality.

77

Women's colleges, despite financial and other problems, ought not lightly to abandon their identity. This is particularly important as many coeducational institutions continue to be male-oriented. Few have managed to protect or further the position of women. The present tendency, which is to eliminate women's colleges, may be unfortunate. Schemes for coeducation at women's and men's colleges are rapidly gaining favor; many of these proposals may be ill conceived. The concern on the part of some institutions to be in fashion risks the loss of a purpose that may not be easily recovered.

78
The predominantly Negro colleges are in desperate financial straits. They continue to enroll a very substantial proportion of black college students. Without these institutions, many thousands of black students in the South would be denied higher educational opportunity. Public and private resources should be directed to these colleges, while programs to develop other options for black students are devised, tested, and made more widely available.

79
Long-range planning is uncommon in many colleges and universities. Few can boast organizations and procedures adequate for the advanced planning of their needs and resources. Many self-studies scarcely mention long-range planning mechanisms. The key to such planning is the development of institutional research which provides data and knowledge of a specificity and range not now available. Only then can a planning committee and staff function.

80
College and university budgeting should be directed to the reallocation of the total resources of the institution rather than to annual increments. Changes in colleges and universities will have to depend on a kind of budgetary review not now taking place. In a period of financial stringency, substantial substitution of programs rather than addition to them must be the principle that guides those responsible for decision-making. It can no longer be assumed that new programs will be supported by extensive new funds. Unpopular decisions will have to be made and explained.

81
When a professor retires, resigns, or dies, it is generally assumed that the vacancy in the field will be automatically filled. This is an unwise policy, since it prevents response to new priorities unless the institution grows in size. Every vacancy ought to revert to a campus-wide pool where the requirements for a particular specialism can be weighed by administrators and faculty against requirements for other fields.

82
Private industry or nonprofit corporations ought to be encouraged to supply services now offered by colleges and universities to their students. Considerable savings might be realized by such policies. Also, a more sensitive response to changing student needs might be registered. Housing, dining facilities, career counseling, health, and medical services might be supplied more reasonably by outside agencies. Institutions ought to experiment with many different systems. At large institutions, what is suited to one faculty or school might not be appropriate for another.

83
Resource-sharing for expensive or unique facilities will become a financial necessity for all colleges and universities. More important, however, are the educational improvements that would be realized through imaginative cooperative efforts of a kind

that are not now taking place. Colleges and universities ought to share scarce human talents through joint appointments, permitting either students or gifted teachers to move among campuses. The use of modern technology by several institutions involved in collaborative enterprises is also called for. Most difficult, however, is cooperation based on the willingness of one institution to abandon an established field of study entirely, recognizing that opportunities for such study exist elsewhere in the region and can be made readily available to its students.

84
Educational experiments often take place on a single campus. They are rarely studied or evaluated by other colleges or universities that stand to profit from knowing about them. Inter-institutional cooperation in educational experimentation ought to become more common. It is possible for a group of institutions to plan specific educational reforms jointly, to try out variants of these on individual campuses, to monitor these experiments, and to learn from them. These experiments would then be the common concern of all the institutions involved. Each would have invested funds and manpower resources. Each would have an interest in incorporating into its own programs the results achieved.

85
The primary and secondary schools of the country, responsible for the education of the young during what is incontestably the most formative period of their lives, bear a heavy instructional and social burden. Many colleges and universities have been generally unimaginative in considering how they might cooperate with these schools, to the advantage both of students and institutions. It is time that more universities accepted a responsibility in this matter, and did not locate it solely in their professional schools of education. This is an important need which cannot be satisfied by traditional methods. The colleges and universities stand to gain immensely from new kinds of cooperation with schools, and they ought to arrange for them. The task will be difficult, often frustrating. It will call for political, organizational, as well as intellectual skills.

Notes on Contributors

Ernest Bartell, C. S. C., born in 1932 in Chicago, is president of Stonehill College.

Kenneth E. Boulding, born in 1910 in Liverpool, England, is professor of economics at the University of Colorado.

Lewis M. Branscomb, born in 1926 in Ashville, North Carolina, is Vice-President and Chief Scientist of the IBM Corporation.

Joseph M. Cronin, born in 1935 in Boston, is the Secretary of Educational Affairs for the Commonwealth of Massachusetts.

B. T. Feld, born in 1919 in Brooklyn, is professor of physics at the Massachusetts Institute of Technology.

Herman Feshbach, born in 1917 in New York City, is head of the department of physics at the Massachusetts Institute of Technology.

R. W. Fleming, born in 1916 in Paw Paw, Illinois, is the president of the University of Michigan and professor of law at the university.

Paul C. Gilmore, born in 1925 in Lethbridge, Canada, is administrative assistant to the vice-president and chief scientist, IBM Corporation, and an adjunct professor at Columbia University.

Robert J. Glaser, born in 1918 in St. Louis, Missouri, is president of the Henry J. Kaiser Family Foundation and consulting professor of medicine at Stanford University.

Gerald Grant, born in 1938 in Syracuse, New York, is associate professor of sociology and education at Syracuse University.

Caryl P. Haskins, born in 1908 in Schenectady, New York, is a former president of the Carnegie Institution of Washington.

Philip M. Hauser, born in 1909 in Chicago, is professor of sociology and director of the Population Research Center at the University of Chicago.

Howard H. Hiatt, born in 1925 in Patchogue, New York, is dean of the Harvard School of Public Health and professor of medicine at the Harvard Medical School.

Charles J. Hitch, born in 1910 in Boonville, Missouri, is president of the University of California and professor of economics at Berkeley.

Vernon E. Jordan, Jr., born in 1935 in Atlanta, Georgia, is executive director of the National Urban League.

John G. Kemeny, born in 1926 in Budapest, is president of Dartmouth College.

Clark Kerr, born in 1911 in Stony Creek, Pennsylvania, is chairman and staff director of the Carnegie Council on Policy Studies in Higher Education.

Asa S. Knowles, born in 1909 at Northeast Harbor, Maine, is president of Northeastern University.

S. E. LURIA, born in 1912 in Turin, Italy, is Institute Professor and director of the Center for Cancer Research at the Massachusetts Institute of Technology.

ZELLA LURIA, born in 1924 in New York City, is professor of psychology at Tufts University.

RICHARD W. LYMAN, born in 1923 in Philadelphia, is president of Stanford University and professor of history.

ROBERT E. MARSHAK, born in 1916 in New York City, is president of the City College of New York.

WALTER P. METZGER, born in 1922 in New York City, is professor of history at Columbia University.

MARTIN MEYERSON, born in 1922 in New York City, is president of the University of Pennsylvania.

DANIEL P. MOYNIHAN, born in 1927 in Tulsa, Oklahoma, is the United States Ambassador to India.

PATRICK E. MCCARTHY, born in 1930 in Rumford, Maine, is Chancellor of the Massachusetts Board of Higher Education.

GERARD PIEL, born in 1915 in Woodmere, Long Island, is president and publisher of the *Scientific American*.

DAVID RIESMAN, born in 1909 in Philadelphia, is Henry Ford II Professor of the Social Sciences at Harvard University.

H. GUYFORD STEVER, born in 1916 in Corning, New York, is director of the National Science Foundation, and Science Adviser and Chairman of the Federal Council for Science and Technology.

KENNETH S. TOLLETT, born in 1931 in Muskogee, Oklahoma, is Distinguished Professor of Higher Education and director of the Institute for the Study of Educational Policy at Howard University.

MARTIN TROW, born in 1926 in New York City, is professor of sociology in the Graduate School of Public Policy at the University of California, Berkeley.

W. ALLEN WALLIS, born in 1912 in Philadelphia, is Chancellor of the University of Rochester.

ROBERT WOOD, born in 1923 in Saint Louis, Missouri, is president of the University of Massachusetts.

ADAM YARMOLINSKY, born in 1922 in New York City, is Ralph Waldo Emerson University Professor at the University of Massachusetts.

RICHARD ZECKHAUSER, born in 1940 in Philadelphia, is professor of political economy at the John F. Kennedy School of Government, Harvard University.

SALLY ZECKHAUSER, born in 1943 in Wilmington, Delaware, is director of Analytic Studies at Harvard University.

JEROME M. ZIEGLER, born in 1923 in New York City, is Commissioner of Higher Education for the Commonwealth of Pennsylvania.

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